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With lists made, tasks delegated, and vendors in check, a data center manager should have an easier time keeping equipment shiny and protected.

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We look at the issues you'll confront to keep your data center up and running: namely, the plans and equipment you'll need to ward off network downtime.

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NEW PRODUCTS

■ Acronis introduced True Image Enterprise Server 8.0 and Corporate Workstation 8.0, which support recovery and backup operations. ■ AMD is introducing a new version of its Sempron processor. ■ Casio released its IT-10 shock-resistant Pocket PC. ■ **Computer Associates** introduced CleverPath Portal 4.7, which helps companies organize, analyze, and report business data. ■ Dot Hill announced highcapacity, 400GB SATA drives for use in all SANnet II SATA storage systems. ■ Elo TouchSystems announced the 1926L, a 19-inch, medical-grade LCD with a touch-sensitive screen. ■ IBM added another LTO drive to its TotalStorage tape family. ■ SoftPerfect released the latest version of its Print Inspector software. ■ **Zonet** introduced the ZEW2500 and ZEW2500P USB adapters.

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Realizing The 24/7/365 Data Center

What's Standing In The Way Of Constant Uptime For Your Company?

by Christian Perry

AS DATA CENTERS CONTINUE to morph into increasingly vital pieces of the enterprise information puzzle, the challenge of keeping them running around the clock remains a critical concern. Not only does today's more powerful equipment equate to more heat and increased demand for fault tolerance, but the new, ever-more-varied technologies gracing today's centers require a wide range of maintenance.

Even as the technologies themselves grow more reliable, the human factor often stays the same, for good or bad, and it's this factor that seems to prove most daunting for administrators trying to keep their data centers up and running 24 hours a day, seven days a week, 365 days a year.



FOCUS PIECE

"The biggest challenge is change control," says Jay Hunter, a senior network engineer with the Fannie Mae Foundation in Washington, D.C. "Especially in an environment with multiple administrators who have the right to change items on the network or the server to fix problems, it's difficult to monitor and track all the change within the network. There is software to aid with change control, but it's often expensive, and it's difficult to justify the cost in a small environment."

Hunter explains that such software rarely has an appreciable value on the bottom line, despite its ability to help with migrations, personnel changes, software and hardware rollbacks, general troubleshooting, and testing of new configuration. But because senior management staff and business owners rarely get hands-on looks at

> these procedures, data center managers have a tough time extolling the value of software that can help to streamline the overall process.

For larger corporations, introducing redundancy into the data center is becoming easier, thanks to cheaper fiber and virtualization software. Yet even when smaller companies integrate these aspects to build a stronger data center, it can still be difficult to maintain constant uptime. After all, there's only so much money to go around.

"If you want 100% uptime, you must have redundancy," says Hunter. "This encompasses RAID systems, cluster services, multiple data trunks, clustered network devices, serious change control, and several warm bodies on watch

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Email Supplements For The Enterprise

Think Outside The Inbox

by Sixto Ortiz Jr. . . .

EMPLOYEES WHO SPEND considerable time ridding their inboxes of unwanted junk are wasting time better spent making money for their employer. If managing email traffic is siphoning away your enterprise's productivity, perhaps it's time to look at other tools for enabling digital collaboration in your business.

Message In A Packet

Instant messaging services have long been available for Internet users interested in chatting instantly with friends and strangers all over the world. But, IM is now making inroads into the corporate

world. For example, IBM's Lotus Notes collaboration software now features built-in IM capabilities.

Can IM serve as an email substitute? IM is very useful for exchanging short conversations with other users. If you need to quickly verify whether

someone is online so you can invite him to lunch, IM is preferable to email. IM is also useful for "virtual meeting" applications that let a group of users exchange messages, share files, and use a common "white board."

But a huge part of email's appeal is the ability to archive, search for, and retrieve messages that address specific topics. IM is, by its very nature, a conversation-focused medium. Searching for a nugget of meaning in a pile of conversational

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Instant messaging is also useful for "virtual meeting" applications.

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MarketPlace ~ NEWS



STOCKS CLIMBED ON DEC. 1 thanks to the biggest one-day drop in oil prices since September 2001. The Dow rose 1.6% and erased losses of the past few days as oil prices fell 7% to \$45.45 a barrel. The Dow closed at 10592.22, up from 10520.31 a week earlier and erasing the losses, while the Nasdaq closed at 2138.23, up from 2102.54 a week earlier.

■ Tech Worker Confidence Dropping

TECHNOLOGY WORKERS' confidence in the job market fell in November, according to a survey by Hudson Global Resources. The staffing firm said its monthly employment index fell for the IT sector to its lowest level since June. Tech workers grew more concerned about layoffs, with 27% expressing concern compared to 18.8% in October. The report comes amid mixed signals about the state of the economy and a feared slowdown in tech sales.

Cell Phone Sales Show Brisk Growth

GLOBAL CELL PHONE SALES rose 26% to 167 million units in the third quarter, according to market research firm Gartner. Market leader Nokia saw its share rise to 30.9% after two consecutive quarters of share declines. Samsung overtook Motorola as the No. 2 cell phone maker for the first time. Nokia made its comeback thanks to new models of sport phones and clamshells. Samsung had 13.8% share, while Motorola had 13.4% share. Meanwhile, Nokia said it plans to open a factory in India.

Cingular Says Cash Flow **Ahead Of Schedule**

CINGULAR WIRELESS SAID it will see positive earnings and cash flow in 2005. That's a year earlier than it previously forecast as it integrates newly acquired AT&T Wireless Services. It also said subscriber growth since its \$41 billion acquisition has been strong.

Microsoft To Open Lab In Bangalore

MICROSOFT WILL OPEN a research laboratory in Bangalore, India, in a sign of India's growing importance in technology. The lab is set to open in January and will focus on multilingual systems, technology for emerging markets, geographical information systems, and sensor networks. Initially, the Bangalore lab will employ just 12 scientists.

Europe Regulators Suspend Review Of ContentGuard

EUROPEAN UNION COMMISSION investigators suspended an antitrust review of ContentGuard and investments in the company by Microsoft and Time Warner. The EU had been concerned that the deal would give too much power to Microsoft in online sales of music and video. But the partners recruited Thomson SA to allay antitrust concerns.

Fiber Optics To Homes Doubling

THE NUMBER OF HOMES that can subscribe to fiber-optic lines for ultra-fast Internet service doubled from last year to 413,000, up from 180,300 a year ago. Of those homes, 146,500 were subscribing to fiber lines, up from 64,700 a year earlier, according to Render Vanderslice.

Microsoft Announces Blog Tools

AIMING AT PROVIDING a new set of Webbased services, Microsoft said it will allow users of its MSN service to publish and track each other's blogs. The free blogging service, dubbed MSN Spaces, offers ways for users to publish their opinions, observations, and information on the Internet to wide audiences. The service competes with a similar offering from Google.

Analog Devices Reveals SEC Probe

ANALOG DEVICES SAID the Securities and Exchange Commission is probing the company's granting of stock options to executives just before it announced favorable financial results. The chipmaker said the SEC is looking into options-granted practices over the past five years.

Pennsylvania Lawmakers Clash On Wi-Fi

THE GOVERNOR OF Pennsylvania signed a law that would prevent Philadelphia from going through with its plans to set up a citywide Wi-Fi network unless it gets permission from incumbent providers such as Verizon. Verizon said it wouldn't oppose the city's effort, but Philadelphia officials said they shouldn't have to ask permission.

HP Plans New Weapon Against Viruses

HP SAID it will begin selling software designed to throttle viruses before they take off. The computer maker will bundle the software with its ProLiant servers and ProCurve networking equipment. The technology, dreamed up at HP's research lab in Bristol, England, detects the spread of viruses and shuts down their ability to replicate in mass.

Boston University **Forms Sensor Networks Consortium**

BOSTON UNIVERSITY teamed up with Intel. British Petroleum, Honeywell, and others to create a consortium around sensor networks, which promises to give computer networks powerful surveillance capabilities. Researchers have spent years developing the networks, which consist of low-cost networking devices and sensors. They can monitor large areas for changes in temperature, motion, light, and other physical conditions. Some companies, such as Dust Networks, have begun commercializing them.

Mercury Interactive **Beefs Up Management Ranks**

MERCURY INTERACTIVE HIRED Anthony Zingale as its president and chief operating officer as the maker of business software. Zingale was former CEO of Clarify, which Nortel bought in 1999 for \$2.1 billion. He left Nortel in 2001 and served on the board of Mercury, which makes software that allows companies to test, modify, and manage software.

This information provides a quick glimpse of current and historical stock prices and trends for 16 major companies in the technology market.

Company	Symbol	Dec. 1 \$	Nov. 24 \$	% change
Avaya	AV	\$16.39	\$16.32	▲ 0.4%
BEA Systems	BEAS	\$8.35	\$8.30	▲ 1%
Computer Associates	CA	\$30.85	\$30.62	▲ 1 %
Cisco Systems	CSCO	\$19.15	\$19.21	▼ 0.3%
Dell	DELL	\$41.36	\$40.76	▲ 1 %
Electronic Data Systems	EDS	\$22.50	\$22.10	▲ 2%
Google	GOOG	\$179.96	\$174.76	▲ 3%
HP	HPQ	\$20.52	\$20.14	▲ 2%
IBM	IBM	\$95.88	\$95.46	▲ 0.4%
Intel	INTC	\$23.10	\$23.61	▼ 2%
McAfee	MFE	\$28.64	\$27.48	4 %
Microsoft	MSFT	\$27.25	\$26.64	▲ 2%
Oracle	ORCL	\$13.09	\$12.79	▲ 2%
PeopleSoft	PSFT	\$23.68	\$23.52	▲ 1%
Red Hat Software	RHAT	\$15.00	\$13.30	13 %
Sun Microsystems	SUNW	\$5.46	\$5.21	▲ 5%

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- · Integrated ATI Rage XL PCI graphics controller
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₽roduct 🔼 Releases-



CASES & CABLES

■ APA Cables & Networks has launched the FDP (Fiber Distribution Pedestal), an FTTPbased nonmetallic pedestal. The FDPs pass GR-13 testing for strength, ruggedness, and security. Three sizes are available: an 8inch, 10-inch, and 12-inch FDP. The largest size supports up to 288 splices. The FDPs store feeder and distribution splices, as well as splitters, connectors, and slack cable. The pedestals also protect loose fiber-optic cables. Each FDP is also tested for RUS PE-91 compliance. The FDP costs \$20 for each site served.

DATA COMMUNICATIONS

■ Digital Networks announced the launch of the DECserver ConX, which will be available in three models varying by power option-AC power, Power Over Ethernet, or both Power Over Ethernet and AC power. In addition to providing 10/100Mbps LAN connectivity for users of console, serial device, and terminal server applications, the new DECserver ConX line preserves the legacy protocol support of older DECserver devices. The group is intended for rackmount, wallmount, or standalone configurations, and the device server connects RS232-, RS422-, and RS423based serial devices to networks by means of TCP/IP and LAT network protocols. Prices for the DECserver ConX range between \$799 and \$899.

■ The Model 4421 Cat5 RJ45 A/B Switch is a new switch from

Electro Standards Laboratories.

The switch is designed for fallback network applications and connects a device or workstation between two devices or networks. For security the Model 4421 features an RS232 serial security enhanced Supervisory Remote Port; with correct authentication, either a terminal or computer in terminal mode connected to the Supervisory Remote Port can communicate with the switch, assess its status, change the switch's position, and lock out front panel switching capability. Optional GUI software is available for systems using Win95/98/NT/Me/2000/XP.

. ■ Emulex has unveiled its FibreSpy SOC 804 line of embedded storage switches. The new storage switch features a switchon-a-chip design and two unique applications: STS (SuperScalar Tiered Storage) and ISS (Integrated SAN Switch). STS interconnects thousands of Fibre Channel disk drives within a tiered storage array, which Emulex claims offers unparalleled scalability and cost optimization. ISS integrates SAN switching into the front end of storage systems and server blades. The FibreSpy SOC 804 family also carries Emulex's InSpeed technology. A high-speed SPI-4.2 interface links as many as five FibreSpy SOC 804s as a 20-port switch solution.

■ KEMP Technologies has announced the LoadMaster 1500 Server Load Balancer (SLB), which is a layer 4-7 content switch aimed at the SMB market.

VIA's C3 processor provides the brains for the 1500 SLB, which features a reduced form factor and quiet operation. The LoadMaster 1500 SLB includes fully licensed software and a year of KEMP's Gold support, all for a list price of \$2,490. KEMP also announced a new naming scheme for its existing LoadMaster product line.

. ■ With its new MAX5946, Maxim has jumped onto the PCI Express bandwagon. The dual PCI Express supports PCI Express hotplug slots and lets users add or remove cards from active slots. The chip has thermal shutdown protection and power-good indicators, and it supports SMBus interfaces. The MAX5946 offers +12V and +3.3V to up to two PCI-E slots and includes FAULT-bar outputs. There are two flavors of the MAX5946: A, which has autoretry fault management, and L, which has latched fault management. Both chips start at \$3.26 in quantities over 1,000.

. ■ QLogic and McData are joining forces to introduce an embedded Fibre Channel switch for blade servers. The server-embedded and McData-interoperable switch blade will complement McData Directors, fabric switches, and multiprotocol SAN routers. The product will incorporate QLogic switch hardware plus firmware that enables interoperability in McData fabrics. The embedded blade server switch features a suite of features for the enterprise, including McData-mode interoperability from core-to-edge, open exchange

of management data, zoning, security, and partitioning.

■ Rancho Technology released the RTSASR-12X, a 3Gb 12-port SAS edge expander with a 1U form factor. The RTSASR-12X offers 12 ports from a single SAS or SATA port and features the ability to be interconnected with other expanders for up to 144 devices. The RTSASR-12X is currently available for \$965 in single-unit quantities.

■ WildPackets introduced the Omni³ v2.0 distributed network fault analysis product for network troubleshooting and monitoring. The new version includes support for wireless and WAN topologies. The Visual Expert feature provides customizable real-time distributed graphing and lets admins quickly locate and repair system outages. WildPackets has also announced the Omnipliance hardware Gigabit Ethernet and WAN analysis product.

■ **Zonet** introduced the ZEW2500 and ZEW2500P USB adapters, which are designed to work with the 802.11g wireless networking standard. The ZEW2500 is a pensized version that can be used with a desktop or notebook PC. In contrast, the ZEW2500P is a little larger and meant to be used primarily with desktop machines.

GRAPHICS & VIDEO

■ Elo TouchSystems announced the 1926L, a 19-inch, medicalgrade LCD with a touch-sensitive screen. The monitor comes in dark gray or beige and is available with a USB or serial touch interface for use with Elo's AccuTouch fivewire resistive and IntelliTouch surface-wave touch technologies. The product also comes with an enclosure design that keeps it safe from liquid drops and spills.

MOBILE COMPUTING

■ Casio intends its IT-10 for use in tough environments. The \$999 Pocket PC is shock-resistant and capable of surviving drops from 3.3 feet. It also meets the IP 54 rating for dust and water resistance. A large 3.7-inch display provides 640 x 480 resolution and can switch between landscape and portrait modes. SD and Compact-Flash slots provide added storage or hardware expansion. Casio claims the included battery can operate for up to 27 hours on a single charge. Intel's PXA270 is a 416MHz processor that forms the heart of the system. 64MB of RAM are available for running applications and storing additional software. 64MB of flash ROM are also included with 20MB free for use.

■ Socket Communications' new GPS Nav Kit connects to Pocket PCs, notebooks, and Tablet PCs, but because it uses Bluetooth, you can place the GPS receiver anywhere in your car and keep the display in plain view. The GPS Nav Kit provides flat, bird's eye, and 3D views; WAAS (Wide Area Augmentation System) for increased accuracy; and voice navigation. The system sells for \$249.

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Realizing The 24/7/365 **Data Center**

Continued from Page 1 every minute of the day. All of these can be incredibly expensive."

Some large enterprises that can afford these costs can also afford to build data centers in multiple locations that are capable of backing up each other. But in smaller environments, administrators are finding that constant uptime might not be quite as reasonable as a minimal downtime philosophy.

In such an architecture, engineers are focused on response time instead of uptime, and although redundancies are still required, an enterprise can choose only those that are critical and affordable.

Whatever the size of the data center, cooling and power consumption require constant attention to keep the data constantly ready and available. Air conditioning, UPS devices, and similar equipment must be in place and also running at all times, just like the data center itself, which means enter-prises need even more manpower to monitor and maintain that end of the equation.

Recent powerful, efficient servers such as IBM's eServer i5 595 help engineers keep data centers running at all times, but challenges still remain.



Backup generators need to be in the mix, too, to generate enough electricity to power the center in case the local power kicks off.

According to Hunter, downtime in the past stemmed primarily from trial-and-error strategies used by engineers seeking the best possible mix of hardware, software, and environmental conditions. But today, he says we see enough reliability and stability in these ingredients to focus on elements designed to keep the data center running flawlessly.

"Outside of the physical requirements of clean power, battery backup, and sufficient cooling, the greatest aid is proactivity," he says. "Good antivirus software, good patch management strategies, and good monitoring tools go a long way toward constant uptime." P

Environment Monitor

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Product 🔼 Releases

Continued from Page 6

PRINTERS & SCANNERS

■ Canon, a provider of black-andwhite and color laser copier/printer solutions, recently announced a partnership with EFI, a solutions provider for digital imaging and print management. The pair is working together to meet growing needs of customers in graphics, business, and production color environments. One result of the partnership is the new EFI Doc-Stream 5 print server for the Canon Color imageRUNNER C3220 digital imaging system. This new system features the Colordox color management suite, which includes Color Profile Manager to improve efficiency and eliminate errors by proofing the C3220 using ICC (International Color Consortium) for easier color management. The DocStream 5 color printer server for the imageRUNNER C3220 imaging system is available for \$13,500.

PROCESSORS, CHIPSETS & MEMORY

■ AMD introduced a new version of its new Sempron processor; the Mobile AMD Sempron 3000+ is available to manufacturers for \$134 each in 1,000-unit quantities. According to AMD, Gericom and Packard Bell should have systems using the Mobile AMD Sempron 3000+ available in Europe this holiday season. Other manufacturers set to use the Mobile AMD Sempron include Acer, Epson Direct, Fujitsu, and Sharp.

SECURITY

■ Canon's new VB-C50Fi is a fixed IP networkable security

camera. The integrated server can support up to 50 clients at once, and it provide images ranging from 640 x 480 to 160 x 120. A 26X optical zoom and 12X digital zoom let you focus on the fine details, and the included software can compensate for dark areas, such as shade, within the frame.

The camera is capable of operating in lighting conditions as low as 1 lux. The VB-C50Fi has 15MB of RAM for still-image recording. The camera is also compatible with numerous software applications including Canon's Webview Livescope MV 2.1 LE and Webview Livescope MV 2.1. Canon's VK-64 and VK-16 digitally records video to a central server for archival purposes.

■ PCTEL released an EAP (Extensible Application Protocol) SDK that includes an 802.1x security module. The kit supports WPA and WPA2, which in turn supports the soon-to-be 802.11i standard. The kit is compatible with Microsoft SDK architecture, has sample application and source code, and lets users integrate security features into their existing networks.

SOFTWARE

■ Acronis introduced the True Image Enterprise Server 8.0 and True Image Corporate Workstation 8.0. The new versions support recovery and backup procedures for both servers and workstations. True Image Enterprise Server can not only restore systems, it can complete the restoration within minutes. It can also assist with

creating a disaster-recovery plan, software installation procedures, and other tasks. The software notifies system administrators of errors via email or pop-up windows. It also generates backup reports.

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■ Artisoft announced the newest addition to the TeleVantage product family: the TeleVantage Enterprise Manager. This new software enables businesses to connect multisite locations into one unified telephone system. Features of the TeleVantage Enterprise Manager include easy user synchronization using Microsoft Active Directory. Also, Manager's peer-to-peer architecture removes any central point of failure and provides centralized IVR (Interactive Voice Response) applications.

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FOCUS PIECE

Data Center Upkeep & Maintenance Tips

Housekeeping Chores That Make Tasks Easier

by Elizabeth Millard

MAKING SURE THAT the network is up and running consistently involves more than knowing the difference between input and output. Sometimes, it takes getting your hands dirty.

Doing physical checks of electrical systems, water mains, and generators can be onerous tasks, but they're vital for making sure a data center is protected. In smaller companies that lack facility supervisors and repair personnel, it's even more important for data center managers to take on upkeep chores themselves.

But housekeeping doesn't have to be so much like, well, *housekeeping*. There are ways to make the maintenance easier.

Know Your Needs

In order to understand what needs to be done with cleaning and upkeep, first an IT department should write down an extensive list of the physical attributes of its data center, as well as the entire building. This involves more than knowing what's under the floor and where the mops are kept, says Phil Isaak, principal at data center design firm Reliable Resources.

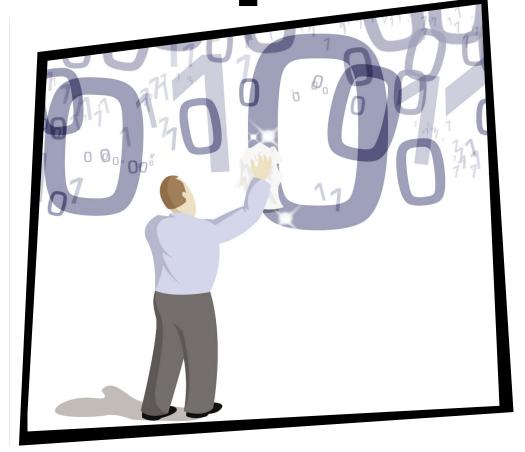
"Upkeep begins with knowing everything, like where water pipes run and whether there have been leaks in the past," he notes. Data center managers should have a grasp on where power sources, electrical systems, and generators are contained.

Important, too, are the elements that keep maintenance running—pump bearings, fan belts, AC filters, and other building essentials that are the domain of facilities management.

"Basically, know your building," says Isaak. "Are there cracks in the exterior walls? What's on the roof above your data center? How often should your air conditioner filters be changed? All of this is necessary to do maintenance consistently."

Set Priorities

When a comprehensive list of equipment and building quirks is created, then it's *Go to Page 10, Column 1*



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₽roduct 🔼 Releases-

Continued from Page 7

■ Computer Associates introduced CleverPath Portal 4.7, the latest version of its software that helps companies organize, analyze, and report business data to IT staff and other relevant parties. CleverPath Portal 4.7 supports 10 languages. A new feature of this release is the content management services workplace, which facilitates not only adding document-based material but also reviewing, editing, and approving this business data. CleverPath Portal 4.7 is compatible with Microsoft Windows 2003 Server, Linux, and JRE.

■ SoftPerfect released the latest version of its Print Inspector software, a program that audits printers and compiles detailed printing statistics, including job creator names and job dates. Thanks to the integrated reporting tool, you can create charts that display information about any of the database's categories. You can also manage print jobs; the software lets you start, stop, and reprint and view document properties. SoftPerfect Research is targeting the program at businesses that want to manage print jobs or track employee printing habits. Print Inspector 4.0 supports WinNT/ 2000/XP/2003 Server.

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■ Sybase announced its latest data modeling tool, Sybase Power-Designer 11. This tool is designed to give enterprises better alignment between business and IT goals and offer adaptations to changing business conditions. New features that allow the Sybase PowerDesigner 11 to do this include impact analysis, requirements management, enhanced data modeling, enhanced UML (Unified Modeling Language), business process model, and a new information liquidity model. Sybase PowerDesigner 11 will be released later this year.

STORAGE

- Dot Hill announced high-capacity, 400GB SATA drives for use in all SANnet II SATA storage systems, including the original SANnet II SATA Enterprise Edition and the recently introduced SANnet II SATA Special Edition of Switchless SAN products. Product bundles include a SANnet II SATA storage system with single or redundant RAID controller and SANscape storage management software for Windows or Linux. The drives provide storage capacity up to 4.8TB from one compact 2U SANnet II SATA array without optional expansion units.
- **IBM** added another LTO drive to its TotalStorage tape family. IBM is targeting the Generation 3 Total Storage 3580 at SMBs that

need to meet compliance requirements. According to IBM, the drive supports 80MB per second, offers 38% more tracks than Generation 2 tape drives, and will support WORM in the future. IBM also plans to offer Generation 3 automated tape libraries. OEMs can add IBM's new TotalStorage T800 to new desktop packages. IBM will make both OEM and consumer drives available this month.

■ Seagate has begun to ship its newest 15,000rpm hard drive, the Cheetah 15K.4. Available in 36GB (\$329), 73GB (\$659), and 146GB (\$1,315) capacities, the latest Cheetah is the first 15K drive to earn an MTBF rating of 1.4 million hours, Seagate claims. Ultra320 SCSI and Fibre Channel versions are available; a Serial Attached SCSI (SAS) edition will

follow in Q1.

■ Sony Electronics announced its version of the Microdrive, a 1-inch removable hard drive compatible with the Compact-Flash+ Type II interface, in 2GB (\$179) and 4GB (\$279) capacities. The drive has a data transfer rate of about 97.9MBps, Sony says, and can use an adapter (sold separately) to fit PC Card

■ Storageflex introduced the new CSS (Compliance Storage Services) designed to help companies manage complex network storage and comply with new laws regarding data retention. CSS treats disparate network storage media—whether optical, tape, or magnetic disk—as a single entity organized in a hierarchical way. Mailbox management, backup, and optional encryption capabilities help make CSS an attractive option in to-

Email Supplements For The Enterprise

Continued from Page 1

fluff may make it difficult to retrieve information out of archived IM exchanges. If you're trying to reduce the amount of meaningless email traffic, will you gain much by replacing archived meaningless emails with equally meaningless IM conversations?

Virtual Gatherings

Discussion groups are one of the most widely used Internet tools. Even though Usenet doesn't get the headlines that the Web gets, it is still a widely used medium for exchanging information.

Discussion groups are also part of the business world. For example, many companies use discussion groups on their Web sites to provide tech support, often saving significant dollars that would otherwise be spent deploying and maintaining a group of customer service representatives.

Discussion groups can be a viable, albeit imperfect, alternative to email. Unlike IM, discussion group exchanges are a bit more organized. For example, a user posts a question and any subsequent replies are grouped under the same topic. This makes it simple to organize, archive, and retrieve information.

But since discussion groups are centrally located, they can be troublesome for users who are not comfortable with the discussion group's organization. For example, a user might post a message one day and may not have to return to the discussion for a few days after that. By then, if the group's traffic has increased, it may be difficult to locate the specific message thread.

Also, email lets you restrict a message to the recipients you choose. In a discussion group, a message you post may be viewable by all group users. Of course, discussion group availability can be restricted, but there may be

times when you want to send a message only to certain recipients within a set of discussion group users. In those cases, most people will fall back on email to get the point across.

A Torrent Of Consciousness

During the recent presidential race, many journalists used blogs (short for Web logs) to record their observations. The use of blogs is exploding all over the Internet as thousands of bloggers instantly publish their thoughts on just about every imaginable topic.

Does blogging have a place in the business world? And, is blogging a sound alternative to email?

Blogging can be a sound communications tool for times when complex ideas need to be formulated in an unrestricted, informal manner. A blog is a good option for communicating at length on ideas that are not yet formalized but require peer review to be improved.

For example, a developer could use a blog to quickly capture her

might be a better tool for disseminating this type of information than sending one large email and waiting for the endless stream of replies that is sure to follow.

Security and document management should be prime considerations if you plan to use blogging in your business. A blog is like a Web page, so information that is

Security and document management should be prime considerations if you plan to use blogging in your business.

thinking about a project or technology. Blogs, like other communication tools, are searchable and can be organized according to topic or date posted. Using a blog

posted on a blog is viewable by everyone who has access. Sensitive information that doesn't need to be shared with everyone could potentially wind up in someone's

blog. Also, in the hands of certain employees, blogging could potentially become an unwanted and distracting rumor mill.

News To Your Desktop

day's regulatory climate.

RSS, or Rich Site Summary, is an XML-based technology for combining and aggregating content from Web-based digital news sites into one application. The technology allows you to select RSS news sources (known as feeds) of Web sites you frequent and retrieve new information from those sites when it becomes available. For example, if you often visit the CNN.com Web site, an RSS client lets you retrieve and preview content from the site without having to visit it.

RSS is quite removed from email in terms of the technology's purpose. In a business environment, it can be more useful as an aggregator of information than as a collaboration tool. For example, if your employees spend a lot of time on the Web searching for new information, an RSS client could send that information right to their desktops. Also, RSS could reduce the number of news items, such as company newsletters or announcements, that would otherwise be distributed via email.

Complements, Not Replacements

Even though other collaboration tools are available for exchanging digital information, none of them are suitable as complete replacements for email. Rather, all these tools are worthy complements to your existing email system. At the end of the day, email will remain the primary tool for communicating in the enterprise.

Finally, keep in mind one important point: No matter what combination of digital collaboration tools you use, remember that in this day of stringent government regulatory scrutiny, any digital morsel of information you generate could conceivably be used in a legal proceeding against your business. Manage your digital information with all applicable requirements in mind.

Communication Tools At A Glance

INSTANT	MESSAGING		
PROS	CONS		
Can reduce traffic of short email messages.	May only be relegated for use in short, trivial conversations between users.		
Can be used with "virtual meeting" tools.	May be difficult to extract useful information from IM content.		
DISCUSSI	ON GROUPS		
Logically organized by topic.	Central location means users give up control of application.		
Newsreader capabilities integrated into email clients and browsers.	Content can quickly increase if not managed.		
Can be used for customer support.	Cannot restrict posting viewers.		
BL	ogs		
Content can be well organized by topic or date.	Security of information is a concern.		
Useful for communicating ideas not yet formalized.	Could turn into a rumor mill.		
No large stream of replies and counter-replies, like email.			
F	ass		
Good information aggregator; can cut down on research time.	Not really a communication tool in the email sense.		
Can reduce email "FYI" traffic.			

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Power Tower XL Zero U

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- True RMS Input Current Monitorina
- Power-up Sequencing • Link to a second tower for

group outlet control



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Data Center Upkeep & Maintenance Tips

Continued from Page 7

time to prioritize what should be done to make sure each will be addressed at some time, even if it's only on an annual basis.

Although the sheer number of tasks can seem daunting, Isaak cautions against trying to do too much too often. "The more preventive maintenance tasks you have, the more man-hours you're going to need." Prioritizing tasks into frequency can help make maintenance manageable.

There are some upkeep tasks that are more important than others. For example, electrical systems are especially vital, as are cooling systems. Matt Frank of data center diagnostic firm Air Plenum says that air quality testing can assist in determining frequency of maintenance cleaning. "Measuring air quality demonstrates the effects of the efforts to maintain a clean environment," he says. "It can also determine when to clean."

Steve Harris, director of data center planning at technology consultancy Forsythe, says that sometimes seemingly minor issues can be very important for upkeep. The No. 1 issue that he sees is air conditioning filters. Considering the role that air cooling plays in data centers, making sure the filters are checked should be a top priority. Harris has seen companies that rarely change filters or do so only when they're blackened with grime. To prevent overheating, the task should be done at least every quarter, he says.

Also worth noting is regular testing of backup power systems, says Harris. Companies often have generators at the ready in case of serious power failure, but without gas, they're worthless hunks of metal.

"Generators use diesel fuel, which degrades over time," he says. Other backup systems such as batteries and UPS systems need to be tested at least once a year, Harris advises.

He says, "Use a modicum of common sense, and you should be OK. Probably, it's best to start with doing upkeep tasks too often and scaling down from there."

Watch For Trouble

Data center managers should also be aware that maintenance activities won't be as effective if poor procedures are in place. Harris laughs about the time that he pulled up a subfloor and found food wrappers crammed between the cables.

"They knew they shouldn't be eating in the data center, so they stuffed garbage into the floor, so they wouldn't be discovered," he says. "Sometimes, you just have no idea what people are thinking."

This demonstrates that proper maintenance includes prevention and diligence, even in areas where it might not seem

Common Issues

There are problems that crop up frequently in every data center maintenance plan, says Steve Harris, director of data center planning at technology consultancy Forsythe. These are the areas he feels get neglected most often:

- · Air conditioner filters
- · Generator needs such as gas and oil
- Filter replacements for air conditioners and other systems
- · Subfloor checks to make sure no obstructions are occurring
- · Battery replacement

so obvious. Air Plenum's Frank says his company often sees great masses of cardboard from new equipment stacked in data center rooms.

He says, "These packages were most likely opened in the facility, releasing millions of micron particles into the air that may be ingested by the server air intakes and cause problems."

He adds that the discarded cardboard isn't just a nuisance for people trying to hospitals or clean rooms at research facilities," says Musick. "But just because your data center is important, that doesn't make it the same thing."

When choosing a cleaner, Musick recommends looking at what kind of training the personnel has had, as well as what insurance the company carries. Because data center outages can cost a company money by the minute, data center cleaning services tend to carry more insurance.

Also important is to keep facility cleaners out of the area, he adds. Often, janitorial services use the same chemical-laden

Considering the role that air cooling plays in data centers, making sure the filters are checked should be a top priority.

navigate among the servers; it's a serious fire threat because cardboard can be highly combustible.

Consider Getting Help

There are times when an IT department really can't do it all, no matter how much they try. Then, it might be time to call in the professionals.

Many smaller businesses often hire cleaning services to scrub down the data center at least once a year, says Paul Musick, vice president at data center cleaning firm ProSource Technical Services. Unfortunately, sometimes companies hire firms that simply know how to clean, he adds, and may not be familiar with the nuances of a data center environment.

Musick recommends quizzing potential vendors on their data center experience. Because the yearly cleaning is so crucial to upkeep, taking the time to find the right vendor is vital. "There are some vendors that do mission critical environments like mops throughout a building. If the concoction hits a data center subfloor and leaches into the cabling below, it can potentially be dangerous.

If a company has chosen a vendor that's unfamiliar with data centers or is simply sloppy in how they act inside its confines, managers should hold them accountable for their missteps, says Frank.

"We often found vendor accountability is overlooked," he notes. "Many vendors enter these critical spaces and jeopardize the integrity of the room by disrupting or voiding the fire integrity of the physical infrastructure."

With lists made, tasks delegated, and vendors in check, a data center manager should have an easier time keeping equipment shiny and protected. Frank adds that once everything is running smoothly, managers should not forget one last item: the annual check.

"The best upkeep task that can be performed is to have an annual comprehensive inspection of the critical space."

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Accessible Devices For The Enterprise

What's New In Assistive Technology?

by Joe Lazzaro

IF YOU'RE AN IT DIRECTOR or human resource staffer in a company with 15 or more employees, you are required by the Americans with Disabilities Act to provide an accessible working environment for your employees with disabilities. On the surface, this may sound daunting and expensive, but providing accommodation to disabled employees doesn't have to be expensive or complicated.

There are thousands of assistive devices on the market designed to help persons with disabilities, and prices are falling. Moreover, Windows, Macintosh, and Linux include built-in assistive technology features, further helping companies cut costs.

Personal Digital Assistants

Many nondisabled persons carry PDAs to organize contacts, notes, appointments, and other information while on the go. For persons with disabilities, PDAs play a similar role but are even more necessary. This is because a PDA does so much more than just make life more convenient. In many cases, the help of a PDA makes it possible for individuals with disabilities to hold down a career independently.

The PAC Mate is an accessible Pocket PCbased PDA that can be purchased in two basic configurations. The PAC Mate QX comes with a QWERTY keyboard, while the PAC Mate BX includes a Braille keyboard. Both models feature speech output and can accept an optional snap-on Braille display. The PAC Mate connects to any Windows computer via ActiveSync, like a standard PDA. The unit includes two Compact Flash card slots, an infrared port, and one USB port for connectivity. The PAC Mate includes a talking suite of speech-enabled applications, including word processor, spreadsheet, email, Web browser, and other applications (\$2,395; www.freedomscientific.com).

The BrailleNote PK (\$4,995) is an accessible PDA that includes a Braille keyboard and a speech synthesizer. According to the company, it is the smallest Braille-based notetaker in the world and includes a built-in 18-character Braille display. The unit is based on the Pocket PC OS and includes a suite of speech-enabled applications: word

processing, email, Web browsing, audio player, and file management. The unit includes USB, Bluetooth, and infrared, as well as a Compact Flash memory slot for connectivity. An accessible GPS system is also available for an additional \$999 (www.pulsedata.com).

Accessible Cellular Telephones

Accessibility solutions have long been available on Windows, Macintosh, and Linux computer platforms. Now, mobile phones are starting to include accessibility features to support users with disabilities.

SpeechPAK TALKS is a screen reader for Symbian-powered cellular phones. The software converts text displayed on the phone's screen to synthesized speech output and verbalizes menus, instant messages, contact names, caller ID, help files, and other content (\$295; www.scansoft.com). The program is distributed in North America by Cingular Wireless, Beyond Sight, and the Sendero Group.

Mobile Speak is a similar package that converts Symbian-based phones into talking handsets and can read menus, text messages, caller ID, and other content displayed on the phone screen (\$295; www.mobilespeak.com).

Global positioning technology is now becoming an important tool for many individuals with disabilities.

The Mobile Phone Organizer MPO is a GSM mobile phone, PDA, and notetaker in a single device. The unit features a Braille keyboard and a voice synthesizer. The device also includes a built-in 18-character Braille display and a suite of applications for messaging, email, word processing, and other standard PDA functions (\$4,295; www.aagi.com).

Accessible GPS Systems

Global positioning technology has long been a useful tool in the mainstream world, but it is now becoming an important tool for many individuals with disabilities, particularly users who are blind or visually impaired. Accessible GPS systems fall into two basic categories: those that include speech output and those that provide Braille output for the user.



The PAC Mate QX from Freedom Scientific is an accessible Pocket PC-based PDA with standard keyboard and speech output.

Trekker is a talking GPS system specially designed for users who are blind or visually impaired. The unit is based on the iPAQ PDA and comes bundled with a GPS receiver, external speaker, and shoulder strap. The device enables users to independently plan routes, browse points of interest, and locate specific addresses (\$1,595; www.visuaide.com). The Sendero Group, Freedom Scientific, and Pulse Data also offer accessible GPS systems that provide either speech or Braille output.

Video Magnification Systems

For workers with low but still usable vision, video magnification systems allow employees to work independently on the job and read printed material without assistance. Video magnification systems consist of a video camera and video monitor. To use the system, the user places the desired reading material beneath the camera. The text is then enlarged on the video display in hold contrast

The Aladdin Classic is a black-and-white desktop video magnification system. The unit consists of a CCD video camera and a 14-inch video monitor. The unit can magnify from 4.5X to 16X magnification and can be used to enlarge both printed material and graphics (\$1,795; www.telesensory.com).

The Jordy is a head-mounted video magnification system that resembles a pair of goggles. The system consists of a video camera and visual display. The Jordy can be used to magnify printed material, photos, computer monitors, and other materials

while on the go (\$2,795; www.enhanced vision.com).

For links to numerous low-vision resources, see the Screen Magnifiers Web site at www.magnifiers.org.

Alternative Input

For workers who have difficulty using a standard keyboard or mouse, there are numerous alternatives. One method is to use an alternative keyboard, such as an ergonomic keyboard, oversized keyboard, or a keyboard with the ability to assume different configurations and positions. For some users, a large trackball is a good replacement for the mouse, as this requires less physical effort and dexterity. Windows also includes a suite of accessibility utilities and an accessibility wizard to help users configure the OS to meet specific needs. For users unable to use an alternative keyboard or other input method, voice recognition systems can be used to bypass the keyboard altogether.

Tash's USB Mini (\$775) is a miniature alternative keyboard for persons who have difficulty typing on a standard keyboard. Tash also offers the USB King alternative keyboard (\$925), an oversized model that plugs into any standard USB port. Tash also offers a complete line of alternative input systems for persons who have difficulty using the keyboard or mouse (www.tashinc.com).

For persons unable to use an alternative keyboard, Dragon NaturallySpeaking Professional (\$795.99) is a Windows-based voice recognition software program. The package lets you dictate documents or control your computer using voice commands. The software comes bundled with a head-set/microphone and requires a sound card. Scansoft also offers a Medical and Legal version of the package for \$1095.99 (www.scansoft.com).

Providing reasonable accommodation to employees with disabilities doesn't have to create anxiety or confusion. Many assistive technology vendors can provide recommendations to businesses seeking a specific solution, or companies can hire private consultants specializing in assistive technology. Qualified persons with disabilities can often obtain assistive technology on loan free of charge from state-based rehabilitation agencies, taking the financial responsibility off the employer.

For more information about federal and state-based programs to assist persons with disabilities, contact your state rehabilitation commission or visit www.disabilityinfo.gov. The Department of Labor Web site (www.dol.gov) also has numerous resources regarding the Americans with Disabilities Act and employment. Many of the major computer manufacturers also provide information about how to make OSes and applications more accessible. See www.Microsoft.com/enable, www.IBM.com/able, and www.apple.com/accessibility.

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Check In Or Check Out

Committing To Maintenance Schedules Keeps The Bosses Happy

by Ericka Chickowski

MAINTAINING A DATA CENTER can be exacting and thankless work. Most of the time, the routine tasks that it takes to keep the place running are far from

UPS and generator systems and test them regularly. Most UPS batteries are designed with several years' worth of life in them, but in

the data center they should be checked annually. It's a smart idea

glamorous. But no matter how much of a tech whiz you are with the extraordinary projects, you'll never get what is due to you if you overlook the basics.

This is why it is important to be methodical about the details. Coming up with a maintenance and upkeep schedule will help you remember everything-from backing up to cleaning the air conditioning filters. The following tasks should definitely be on this allimportant checklist.

Power & Cooling Systems

Data centers rely on power redundancies to cut downtime, but if those fail-safes are not working, they might as well not even be there. It is imperative to maintain

to check the UPS itself for corrosion or any other problems at the same time.

Similarly, the generator should also be checked at least annually for any signs of stress. It should also be checked at least quarterly to ensure that there is plenty of fuel to last through a disaster. Those who want to be extra careful should test all of these power redundancies quarterly.

If your data center is more than a data closet, then it is likely that you depend on more than just the building's air conditioner to keep cool. Managers should inspect equipment regularly—even if they have real-time monitoring—to be sure they aren't missing

inefficiencies or small defects that could snowball. This means checking sensors monthly to be sure they are working. Without these working properly, your monitoring system is going to be misinformed. You should also be checking for hot spots at least once a month. (They can be caused by small changes in the center, such as a rearrangement in subfloor cabling that blocks airflow.) Many times monitoring systems can miss these pockets of heat.

Maintaining The Data

Your job all comes down to one essential element: the integrity of the data. It takes vigilance to make sure that databases are kept up and backups are done properly. Many databases need to be at least partially rebuilt/updated at least every six weeks. And some sort of backing up should be done daily. Those operations with offsite recovery plans should transport offsite backup data at least weekly.

Security. Hit the security trifecta with proper care regarding password, patch, and vulnerability management. Administrators are usually sticklers about users changing passwords once a month or quarter, but then they break their own rules. To ensure security within the data center, administrative accounts should also have password changes just as frequently. As for patch management, major manufacturers are going to a monthly patch update schedule, but to be sure the bases are covered it is still recommended to check for updates weekly.

Antivirus and firewall updates should be done even more frequently. Daily changes make sure security holes are closed quickly, and they can be facilitated by automated software.

Keep tabs on automated systems. Automated monitoring is the boon of every administrator's existence. But no matter how automated your data center is, there is still need for human observation. If

a system finds an error or problem and nobody bothers to look at what it has found, its power goes to waste.

If a system is being monitored in real-time or hourly, it is important for someone to check the logs at least daily to be sure that there are no irregularities that could cause problems down the line. Many monitoring systems are rigged to page someone during major malfunctions, but the little problems can often be missed early on.

Most enterprise-class data centers need to be professionally cleaned by specialists at least once a year. In the interim, it is critical to replace air conditioning filters at least quarterly and to wipe down exposed equipment weekly.

Dirt tends to get sucked into the subfloor, so it is also imperative to check under your tiles at least quarterly to ensure there aren't dust bunny colonies forming down there. This would also be a good time to organize errant subfloor

Data centers rely on power redundancies to cut downtime, but if those fail-safes are not working, they might as well not even be there.

Keep it clean. Your mother always told you that cleanliness was next to godliness, but did you ever think that this would apply at work? Tidiness is essential in the data center. Keeping equipment clear of dirt keeps the equipment safe and keeping the work areas clear of obstacles keeps you safe.

At A Glance

Maintenance schedules will vary for each data center, but the following checklist is a good guideline for essential details.

At Least Daily

- Back up to tape
- Update antivirus and firewall
- Check monitoring system logs

At Least Weekly

- Take tape offsite
- Test backups
- Check circuit loading
- Wipe equipment for dust and dirt

At Least Monthly

- Update patches
- Check generator
- Change passwords

At Least Quarterly

- Check air conditioning filters
- Check fire and water detection systems

At Least Annually

- Professionally clean the data center
- Disaster drills
- Safety training
- Review policies and procedures
- Check UPS batteries
- Check UPS for corrosion

cables to ensure that the snake pit is not impeding airflow.

Keeping an eye on cables above the floor is also important. Data center workers can have a tendency of letting a cable lie "temporarily" across a busy walkway for months. Managers should make sure that someone is responsible for cleaning up these cables at least monthly because tripping over these wires can hurt employees and pull the plug on mission-critical systems.

For more general upkeep tips, see the "Data Center Upkeep & Maintenance Tips" article on page 7 of this issue.

Safety. One of the most forgotten aspects to data center upkeep is safety. Fire and water suppression systems should be tested at least quarterly, but monthly is best. It also pays to ensure that the entire data center staff is retrained in safety procedures at least once a year. Everyone should know proper evacuation procedures, where the emergency shutoffs are, and how to operate these mechanisms. Once they've been trained, the center ideally should drill them, as well.

Have A Maintenance Plan

No matter what timeframe is right for your data center, it is important to have all of these bases covered in a formal maintenance plan. This written document will detail what needs to be done and how often, so that these tasks are done regardless of who is on shift. Like everything else, this plan will likely need some upkeep itself. Review your plan once a year to be sure all of the procedures are relevant and thorough.

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Planning Focus PIECE

For The Worst

The Plans & Equipment You'll Need To Deal With Disaster

by David Garrett

Loss of Business. Loss of goodwill. Loss of production. And loss of money. These are just some of the effects of a data center blackout, whether it's from storm, fire, or flood. In short, it's every admin's worst nightmare, writ large on the backdrop of business failure.

Of course, not every data center disaster stems from quirky Mother Nature. During a remodeling of cosmetic problems at a large bank in November (the bank's name has

A Disaster Checklist

The United States Small Business Administration and the Institute for Business & Home Safety want to keep your firm out of disaster's hands. They offer a free toolkit for disaster planning, which you can access at www.sba.gov/disaster_recov/prepared /getready.html.

Key points include:

- Identify each of the hazards you might face: fire, flood, storms, blackouts, earthquakes, inside abuse, and so on.
- Have a disaster plan in place for each possibility.
- Contact suppliers, shippers, and key vendors to make sure they have disaster plans in place. If they don't, you may want to insist on a plan as part of your contract or even take your business elsewhere.
- Take special care with payroll, tax, and accounting records.
- Check your insurance. Is it sufficient to cover you in a crisis? Do you need more?

been withheld for privacy), workers found cracks in the floor and walls that exposed corroded tension cables, the kind that hold the building up. The corrosion was so bad that management declared the building unsafe and ordered a total evacuation—including the data center staff.

But it's the small to midsized business, the very type of firm that's not likely to have a disaster plan in place, that suffers most data center disasters. And worse, research from the Gartner Group shows that two out of five companies that face a disaster or long downtime in their data center never resume operations. (And of the ones that do, a third are out of business in two years.)

Clearly, backup is an essential part of the puzzle of keeping your data center alive when problems occur. So important, in fact, that we've devoted an entire article to the subject, "The Best Backup Approach," found on page 17.

But here we'll visit the other issues that you'll have to confront to keep your data center up and running: namely, the plans and equipment you'll need to ward off network downtime.

It's The Plan, Stupid

First and foremost is your disaster plan itself, the keystone of your defense against a data center blackout. Of course, a DR plan can be tough to write. Armies of consultants make their living from nothing but writing such plans, and it may help to find one to write yours.

If you decide to go it alone, start with the basics. For instance, if disaster strikes, what's your first goal? Is it total data recovery? You may be quick to say yes, but, before you do,

up ISP? A telco? A way of contacting workers, such as calling trees or always-on beepers? And most crucially, how will you test your plan before a crisis occurs?

Next Up: Equipment

Having the right equipment to start with is one of the best ways to fight disaster head-on. But knowing what to have is half the battle.

First is simple building protection: storm shutters that can battle winds up to 200 miles per hour, an airtight alarm system to keep out interlopers, and good fire protection. In this last category, perhaps the best is

monitors, hubs, cabling, and servers it takes to build a small LAN. (And, if you're planning a backup WAN, you'll need a site with a frame relay.)

You'll also need the basics in office equipment—phones, fax machines, printers, paper, and other supplies that IT groups tend to overlook. And last, you'll need a fireproof safe (or two) to keep your crucial

If you plan to bite back at disaster by

building a disaster site for employees to work from, you'll need all the computers,

> documents, such as the backup plan itself, warranties, and corporate papers.

Don't Forget The People

Too many disaster plans leave out a key element of execution: the effects on your staff. It won't do you much good to have backups, building protection, or an alternate data center if your sales team doesn't know what to do when an earthquake strikes.

Hence you'll need to map out what each team in your company will do in the event of disaster and drill them at least once a year to force the plans deep into their brains, to the point of autonomic response. Be sure to pay close attention to what your executives will do when crisis strikes.

And don't forget that your IT group will be under awesome stress when disaster looms. You might want to keep a few consultants on call to have extra pairs of hands at the ready, such as engineers, admins, and most of all, support techs to soothe the savage beast of your many users.

And don't forget a way to care for yourself. As a CIO, CTO, or network or data center admin, the bulk of disaster planning falls to you, and it's your job to keep the data center up and running when problems occur. Keep a bottle of Advil in your drawer, a prayer in your heart, and most of all, the right plans and equipment to turn a tempest into a teacup.

Too many disaster plans leave out a key element of execution: the effects on your staff.

remember that some of your data is always more vital than others, and a quick but partial restore, such as your accounting or CRM systems, may be more useful than pulling every last email and memo from backup.

Other questions to ask yourself include: How much downtime can your firm endure and still survive? A day? A week? Perhaps it's only an hour. What data, if any, can you lose and still carry on business? What data, if lost, will cut your knees out from under you? Have you planned for human problems, such as corporate sabotage? Do you have a back-

Inergen, an agent that combines nitrogen, argon, and carbon dioxide. Not only will it put out a fire, but it will also do little to damage your servers. And, unlike Halon gas (another common choice), it's nontoxic.

You'll also need a hedge against blackouts. The biggest data centers are powered by generators with enough gas to keep thousands of servers online for weeks at a time. Your needs, of course, will be less, and equipment from APC, Exide Technologies, ASCO, PowerWare, and Generac should handle the load.

The Disturbing Facts

- A Synstar survey of managers shows that only 38% of firms with a written disaster plan test that plan once a year.
- Another survey by Eagle Star and the Association of British Insurers showed that 43% of respondents had no contingency plans in place.
- What's more, only 18% of the respondents with plans had ever tested their plans.
- The most costly natural disaster in the last century occurred in Japan and was caused by an earthquake. The total bill? \$131.5 billion.

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foundation of his/her backup and

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So what will ultimately help

you choose the best approach?

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FOCUS PIECE

The Best Backup Approach

New Technologies Give Small To Midsized Enterprises More Options

by Chris A. MacKinnon

WHERE WOULD THE ENTERPRISE BE today without backups? Even thinking about not having a recent backup gives any administrator the willies. Backup methods have changed over the years and some of the latest developments have dramatically improved the backup certainty of successful backup completion." Virtual tape technology helps SMEs achieve the benefits of disk in the backup data path without sacrificing performance, catalog integrity, or other backup software functionality.

In a traditional disk-to-tape system, data is copied from a disk (typically a hard drive) to how much capacity is required for their backup systems. If they only have a couple of gigabytes, a disk-based backup solution may be a costly medium. Second, they need to determine how quickly they require their information restored. In best-case scenarios, tape media will require a couple hours to restore, and sometimes a full day is needed. Disk backup solutions are much quicker providing an almost real-time restoration of data."

Owens continues, "The third aspect to assess is the offsite housing of their backup media. Most companies already have processes in place where completed archives are shipped to a separate location, stored at a secondary facility, or even taken to the home of a director or executive. Your disk-based backup solution needs to set up in a similar fashion, wherein the backup server is colocated at a separate facility and the backups are done over the Internet."

Farkaly's advice on the best approach is based on the administrator's point of view. He says, "If the SME IT or storage manager is completely satisfied with his/her current backup and recovery strategy, there is no reason to change anything. But this is seldom the case. The complaints I hear the most are: 1) Data recovery takes too long, 2) Backups can no longer be completed inside the backup window, 3) I hate tape!" Farkaly adds, "Concerns No. 1 and No. 3 are addressed by adding disk to the backup critical path and performing D2D2T backup and recovery."

Tape vs. Disk

Is tape on its way out as the preferred backup mechanism? Will that ever happen? According to Farkaly and Owens, definitely not. And for good reasons. Farkaly comments, "Ever is a long time, so let me restrict this response to the next few years. There doesn't appear to be a technology on the horizon that will match tape's utility as a data mobility and longterm retention medium." Owens agrees, saying, "Although the capacity of tape media pales in comparison to disk-backup solutions and its overall access time is much longer, tape media will continue to be with us for a number of years. It provides a consistent solution to backup requirements and is getting cheaper every year."

archive its

data and is able to restore that information in an acceptable amount of time, it shouldn't need to upgrade. Once those needs change, however, reassessing your requirements is a must for any successful SME." In terms of upgrading after a period of time, Farkaly comments, "Change for the sake of change is of no value. New technology in a vacuum is of no value. However, if an SME IT/storage manager is still relying solely on tape as the

Is Upgrading Necessary?

Both Owens and Farkaly have

strong opinions on upgrading, as

well. As for the necessity, Owens

says, "It's OK not to have up-

graded your backup solution. As

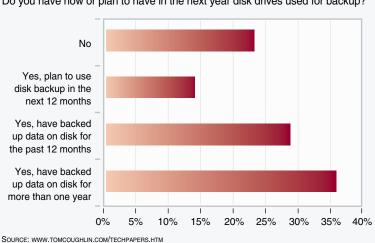
long as an SME is able to fully

product can require a good chunk of time. So try listing the company's must-have features before beginning the big search. Such things as scalability, platform and application support, and specialized software agents should be near the top of the feature list. Although budget regularly comes into play, having the best-laid plan may mean spending a bit more to have the protection your SME really needs.

Disk-Based Storage For Backup Shows Strong Growth Potential

Coughlin Associates conducted a survey of 5,000 North American IT managers from May through July 2004. Based on its findings, the population using disk for backup has grown to 62% and is forecasted to reach 76% penetration by 2005. The percentage of IT managers that have used disk backup in the last 12 months has also increased.

Do you have now or plan to have in the next year disk drives used for backup?



experience. With backup types such as disk-to-tape, disk-to-disk, and disk-to-disk-to-tape, how is any small to medium-sized enterprise to decide which is the best approach? And which method is preferred by most SMEs? Upgrading backup equipment is another issue. If equipment should be upgraded, when is it a good idea to do this? Let's find out what backup experts are saying, starting with the latest developments in the backup world.

This Just In

Robert Farkaly, director of diskbased products at Overland Storage, says, "The most rapidly evolving development in backup is disk-to-disk-to-tape backup using virtual tape drives, virtual cartridges, and virtual tape libraries. The D2D2T solution connects to backup servers using iSCSI that delivers all the benefits of Fibre Channel SAN at a fraction of the cost and with a fraction of the complexity. This new approach to backup provides highlikelihood-of-success disk-speed data recovery, typically improves backup time, and improves the magnetic tape. Known as D2T, these systems are used widely in SMEs that require a safe storage of critical information in case disaster strikes. This type of backup system takes longer than more recent backup technologies to restore data but is more affordable for SMEs on a serious budget. On the other hand, newer disk-to-disk technologies provide very fast restore rates but cost considerably more than D2T systems. A D2Dbased medium allows backup over a network and also provides enhanced offsite protection against loss. Furthermore, D2Dbased systems can restore a server in its entirety after a disaster much more quickly than is possible from tape.

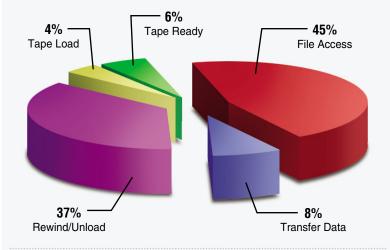
The Best Strategies

Doug Owens, managing director at CBL Data Recovery Technologies, has some good advice for choosing the right backup method for any SME. Owens says, "First of all the SME will need to assess how much data/information they store on a daily, weekly, and monthly basis. That will provide them with some benchmark on

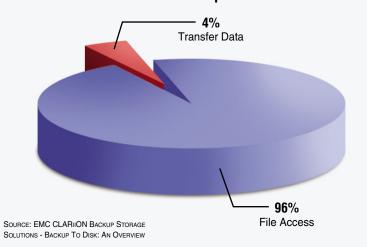
Restore Time: Disk vs. Tape

There are large differences between tape and disk in the amount of time it takes to perform a backup or restore task. The following charts compare the restore time difference between the two approaches. Figures are a percentage of the total elapsed time.

Tape-To-Disk: Total Elapsed Time 12:45



Disk-To-Disk: Total Elapsed Time 0:45



longer battery life in a smaller standards configuration, then there is a better chance that people will replace their laptop, and

Intel, if they are about anything, are about increasing volumes." Meanwhile, Intel's system know-how will likely drive powersaving innovation in the mobile

sector, as well as the PC sector.

"Somebody has to own the system,

and for so long OEMs just don't

own the system," Enderle says.

"Intel wants to teach OEMs how to

do a better job of managing power

so that a system that is only pro-

cessing email doesn't have to be in

high-power mode all the time."

Intel: Eight-Hour Battery Notebooks On The Horizon

Can The World's Largest Chipmaker **Teach OEMs How To Get There?**

by Bruce Gain

INTEL SAYS IT WILL HELP OEMS build notebooks with eight-hour battery lives, but the underlying technology to do that does not have much to do with Intel's CPU inside. So how does the chipmaker expect to pull off such a feat?

Intel first touted the idea of notebooks with eight-hour battery lives during the Intel Developer's Forum in September. Noting that the push to pack notebooks with new features also meant more battery power demands, Intel said it sought to compensate by developing power state management techniques and new battery technologies in conjunction with OEMs. According to Intel, the goal of a notebook with an eight-hour battery life is attainable by 2010.

Specifically, Intel announced during IDF that its creation of a Mobile PC Extended Battery Life Working Group and its September release of ACPI specification v.3.0 would be instrumental in achieving the goal. The company also said it had introduced the Intel Battery Life Optimization Program to help resolve some of the power management and platform configuration hurdles to achieving all-day battery life. Finally, Intel said it would offer OEMs guidelines for optimizing power-saving features using Intel hardware and software know-how to extend battery life.

How Intel Can Make A Difference

For several years, Intel has sought to cut power and prolong battery life by scaling down the power consumption of its mobile CPUs. In 2000, for example, Intel launched its SpeedStep powersaving technology, which adjusted its Pentium III mobile processors' power requirements according to the application the notebook was running. For less demanding applications, for example, the processor "stepped

down" to a lower power state, thus conserving battery life.

However, Intel has since continued to face challenges in designing mobile processors that actually do deliver power-consumption advantages. Its recent launches and future roadmaps show that Intel is serious about packing its mobile processors with features, while it is less vocal about its mobile processors' power-consumption lowering capabilities. Its recently launched mobile processor, the Dothan, based on a 90nm process and packing more features than its predecessor, still does not offer a significant improvement in power consumption, analysts say.

In September, Intel also unveiled new details of forthcoming Intel Centrino mobile technology products, including its Sonoma platform and next-generation platform, code-named Napa. Available early next year, Sonoma, Intel says, will improve what Intel calls "on-the-go in notebooks" while adhering to the company's Intel Stable Image Platform Program, designed to help companies manage their computer software image transitions.

Sonoma will be followed by the Napa platform, which will include a new dual-core mobile processor, code-named Yonah, based on Intel's 65nm process technology. The platform will also include a new integrated graphics chipset code-named Calistoga and next-generation Intel wireless solution code-named Golan.

However, although these future mobile architectures and Intel's 65nm process technology will invariably help its processors take advantage of added circuitry density that will, in turn, lower power, the added features will also grow power consumption requirements. Intel's processors will thus not likely represent the main thrust in reducing notebook power consumption.

The CPU's **Energy Consumption Factor**

Intel processors dominate the low-power notebook sector, analysts say, although Transmeta and others also serve the lowpower notebook sector. The typical battery life of high-end, 14%, respectively, of a notebook's power.

So although the CPU is far from the main power-draining element in mobile PCs, Intel's multimillion-dollar R&D budget for power consumption that it is willing to share with OEM partners will likely comprise non-CPU technologies

What To Look Out For

Specifically, the know-how that Intel will share with OEM customers will likely hinge on firmware and software that will offer a much more effective energy distribution system on a systemwide level than Intel's SpeedStep offers, which is only based on its processor architecture design.

"When the processor is not pushed as hard, for example, then it might trigger other things to slow down, such as caching the hard drive and other ways to lower power," Enderle says. "There might be a light sensor that gauges screen lightness, such as when the ambient light is lower, which would dim the screen when it is darker and make it lighter when it is . . . in environments with more light."

New battery technologies, such as much-talked-about lithiumpolymer batteries, as well as innovations that reduce the significant power drain that LCD monitors represent, will likely serve to significantly prolong notebooks' battery lives in a few years. Battery enhancements and lowered screen power consumption also factor into Intel and OEMs' R&D efforts to achieve the eight-hour battery life goal.

But before new non-CPU technologies are developed, low power consumption will still likely be on Intel's future mobile processors' feature lists, despite the relatively marginal impact CPUs have on total system power savings. "Until we see improvements [in batteries and LCD power consumption], I'm afraid that we're still going to only get any kind of real innovations in [CPU] sockets in the very near term," Enderle says.

New battery technologies, as well as innovations that reduce LCD power drain, will likely prolong notebooks' battery lives in a few years.

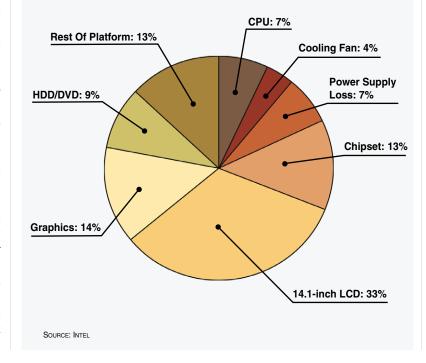
lower-power notebooks is in the four-hour-plus range. But despite the attention paid to the processor inside these long-battery-life notebooks, the CPU component plays a marginal role in notebook power consumption. According to an Intel white paper, for example, the CPU only takes up 7% of a typical notebook's power. The LCD monitor and the graphics components consume 33% and

that will help future customers design-in Intel processors.

This will also, such as in the case of its largest PC customers such as Dell, help grow sales of PCs with Intel CPUs inside. "A lot of times the road warriors, which are the people that actually seek laptops, are looking for [an eight-hour battery life] as a reason to buy," says Robert Enderle, an analyst for the Enderle Group.

Power Consumption Of A Notebook PC

Despite the hype surrounding Intel's claims about its processors' capabilities to extend battery life in notebooks, CPUs only consume 7% of a typical notebook's power.



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Storage Scrooge

Storage Scrooge here, reminding readers that a true storage geek should consider giving storage products this holiday season. Here are a few ideas that are certain to evoke strong responses from the people on your shopping list. Bah Humbug!

For your spouse, significant other, partner, or split personality that you spend a lot of time laughing and/or arguing with, I recommend stuffing his or her stocking with a pile of inexpensive flash memory for capturing and storing digital images and videos. Digital imaging has all kinds of sundry domestic applications, including blackmail and evi-

Trade Show Swag

Others should feel grateful for a gift of USB memory. Trade shows are great places to acquire them at no cost from vendors who hand them out like popcorn. Your sister Joan might like a 128MB stick with the IBM logo, while your mother might be able to get along with a 32MB stick from some unknown startup. T-shirts from storage vendors are also excellent gifts, as long as you can find sufficiently large sizes-but move quickly because vendor employees tend to snatch the larger

Vendor gifts are also nonreturnable, which means you

Why take only one picture of this year's burnt goose when you can take hundreds?

dence stockpiling. Why take only one picture of this year's burnt goose when you can take hundreds? A used digital camera purchased on eBay makes a fine accessory.

don't need to get involved with messy return details and receipts, although my doltish nephew Bartholomew once returned a water bottle for the following year's magnetic screwdriver on the trade show floor. I wish I had that one on video.

Which leads to my next humbug idea. Digital cameras that also take short videos may let you capture those unrepeatable moments when a nephew or niece opens your present of memory (not memories) and instantly breaks from eager anticipation to confused disappointment. It's not your fault if they cannot appreciate the wonders of the silicon age.

More creative children might be able to derive satisfaction from mangling the packaging into some sort of vehicle or figurine. Of course, if you buy it used, you'll probably have to substitute bubble wrap for the original packaging, but bubble wrap is almost always happily engaged by the simple-minded. Protests from adults can usually be stifled by threatening them with a gift of homemade dried fruit samples the following year.

Secret Santa

For my co-workers in the company gift exchange, I like to find the highest capacity disk drives with the biggest rebates. This year it is possible to buy 160GB IDE drives for less than \$50 using rebates and coupons. Make sure you

open the drive packaging and cut away the UPC code and get any other information you'll need for the rebate. Co-workers probably won't mind as long as the drive spins up. Wrap it in the bag it came in from the store. If \$50 is over your limit, then I recommend buying used Fibre Channel relics on eBay for pennies on the dollar. 9GB Fibre

MARC FARLEY

Marc Farley is the author of "Building Storage Networks," the leading technology book in the field of storage networking. He is also the president of Building Storage, Inc., a company that provides consulting and educational services to the network storage and financial services industries. Farley regularly writes and speaks about storage networking technology and is an online expert for the SearchStorage Web site.

Channel disk drives are dirt cheap and are small enough to serve as paperweights.

The 12 Days Of Shutdown

I'd like to close this column with my Storage Scrooge rendition of "The 12 Days of Christmas," renamed "The 12 Days of Shutdown" to reflect the modern tradition of hightech companies closing their doors and turning down the heat at the end of the year.

nology readers will be able to figure out the shorthand used here. Bah Humbug!

In keeping with the spirit of

Shutdown, most of the ob-

noxious repetitive parts of

the song have been omitted

to save space. I trust tech-

On the first day of Shutdown a true geek gave to me, a cartridge to back up my C:

On the second day of Shutdown a true geek gave to me, two mirrored disks and a cartridge to back up my C:

On the third day of Shutdown a true geek gave to me, three hot spares, two mirrored disks, and a cartridge to back up my C:

On the fourth day of Shutdown a true geek gave to me, four virtual LUNs,

On the fifth day of Shutdown a true geek gave to me, FIVE GOLDEN BACKUPS, etc. . . .

On the sixth day of Shutdown a true geek gave to me, six snapshots snapping,

On the seventh day of Shutdown a true geek gave to me, seven SCSIs queuing, etc. . . .

On the eighth day of Shutdown a true geek gave to me, eight ports a-zoning,

On the ninth day of Shutdown a true geek gave to me, nine RAIDs rebuilding, etc. . . .

On the 10th day of Shut-

down a true geek gave to me, 10 paths a-failing over, On the 11th day of Shut-

down a true geek gave to me, 11 outstanding I/Os,

On the 12th day of Shutdown a true geek gave to me, 12 locks releasing, etc...P

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SSPI Security Meets Helen Of Troy

Peter Blackburn and I gave a seminar recently on Reporting Services to an oil company in Louisiana. No, we didn't have to fly down to the bayou country; we simply set up a VPN and hosted a NetMeeting session. It was a lot cheaper than spending two or three days standing in lines, sitting in cramped seats, and sleeping in strange beds to give a twohour talk. The company in question was very pleased but shocked as we pointed out some of the security gaps in Reporting Services. Apparently, most people who train them try to sell them something. Peter and I weren't really trying to sell a product (other than a few copies of our book). We were trying to make their experience with Reporting Services successful and, most of all, safe.

Granting & Denying Rights Is Essential

Before I go any further, I want to say that Reporting Services is no less secure than any application that runs using the end user's SSPI credentials. Consider that when a Windows user logs on to a domain, he supplies a username and password. These are validated against a domain controller or the system-used cached credentials if the domain controller can't be reached. This domain account can be (is usually) a member of one or more domain-managed groups that are granted specific rights by the system (domain) administrator.

For example, a junior clerk in the payroll department might be granted rights to view the salary information

for everyone in the company but would not be granted rights to alter those values. However, the manager of the payroll department might be granted these rights as well as other "super-user" rights. Of course, the database administrator would have rights that (hopefully) no other user would have, not even the developers.

Is Helen Working For Your Company?

This is where Helen comes in. Ms. Troy, a junior clerk in the payroll department, apparently has an issue with the company (something about not being able to date Mr. Achilles). To get even, when she was given the task to use Reporting Services to create a payroll summary, she inserted a bit of SQL code into the query that runs just after the SELECT executed. Given her credentials, this SQL would not execute, but she knows that when her boss runs it, his credentials will execute the additional code, unbeknownst to him. This extra code will be permitted to do anything that the user running the report has rights to do. In this case, because her boss has rights to change the payroll values, this additional SQL was able



WILLIAM (BILL) VAUGHN

William (Bill) Vaughn is an industry-recognized author, mentor, and subject-matter expert with more than 30 years in the computing industry as a developer, manager, trainer, marketer, and writer. After 14 years at Microsoft, Vaughn stepped away to work on his new books, in addition to mentoring and leading training seminars. He's written six editions of the "Hitchhiker's Guide to Visual Basic and SQL Server" and two editions of "ADO.NET and ADO Examples and Best Practices for Visual Basic Programmers." He and Peter Blackburn just finished "Hitchhiker's Guide to SQL Server 2000 Reporting Services."

^ BIO NOTES

to cut the salaries of everyone on her hit list and raise her own. After the report was run (and the damage done), she quietly changed the report DataSet query and removed the extra code. No one was the wiser.

Is this a flaw in Reporting Services? Nope. This same Trojan horse approach can be used by any program that connects to the database using the user's credentials. This is called an SSPI or "trusted" connection. Most books (including my own) and the Microsoft documentation suggest this is the best approach to use when establishing a connection to any DBMS. We also think this is a good idea when developing a report. However, before we deploy the report to the server (where others can execute it), we create a parallel Data-Source (using the same name in the current scope) that uses specific SQL Server credentials. These credentials permit very limited access to the server and its data.

An Alternative To SSPI Security

So what's the alternative? Well, Peter and I suggest that one approach is to disable SSPI authentication on the Reporting Services database server. This was made a lot easier with Reporting Services SP1, but it's still not simple to do. However, it's essential that you do take this precaution. Peter and I explain the process in Chapter 5 of our Reporting Services book (see www.sqlreporting services.net), which involves writing an RSS script to set the EnableIntegratedSecurity Boolean flag to False. Another somewhat easier approach is to create a trigger on the DataSource table that would prohibit developers or DBAs from creating Data-Sources that use integrated security.

Reporting Services is a great new tool to permit developers to build intelligent views of the data stored on your system. However, if you're not careful, you'll expose this data to everyone on the planet. It's not hard to set up the safeguards to prevent unwanted eyes accessing your data, but it does require that you take a few extra steps as you set up the server. Remember that most of the security problems your company will face are from inside the firewall. If you hear hammering and sawing down the hall, check to see if someone is building a big horse (or rabbit).

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IP TELEPHONY MARKET WATCH

IP Telephony Takes Hold

EACH WEEK, MarketWatch gives you a quick look at what's happening in a particular product market so you can make better decisions for your company. We interview industry analysts, product manufacturers, and other experts and combine their comments with the latest statistics and market outlooks for a well-rounded perspective. This week's focus is on IP telephony.

by Sixto Ortiz Jr.

ONE OF THE MOST EXCITING developments in recent years is the IP telephony revolution. IP telephony promises to deliver new features by allowing businesses to shuttle their data and voice communications traffic through the same network. An IP data network will be able to accommodate both types of traffic, obviating the need for dedicated lines for telephony service.

For many businesses, this results in significant savings. But although the IP telephony market-place is taking off, there are still some hurdles to overcome before the technology can truly take hold.

Racing Toward Convergence

You may have heard the term "convergence" bandied about by industry pundits and vendors. According to Webster's Dictionary, convergence means "to bring together at one point." So the goal of convergence telephony is simple: to shuttle data and voice traffic through the same IP channel.

Although adoption of IP telephony systems started within the largest enterprises, the marketplace is quickly moving to embrace small and medium-sized businesses. A recent Yankee Group survey discovered some interesting facts about SMBs and their plans to implement IP telephony.

First, the survey reveals that 25% to 29% of surveyed SMBs (those with 50 to 500 employees) plan to upgrade their phone systems within the next 12 months. Three types of SMB segments were surveyed: SMBs with 20 to 49 employees, 50 to 99 employees, and 100 to 499 employees.

More than 50% of all SMB segments surveyed will consider a converged telephony solution when upgrading. It should come as no surprise that all the major IP telephony vendors are setting their sights on the SMB marketplace.

A Mixed Marketplace

Steve Hilton, a senior analyst with the Yankee Group's Small and Medium Sized Business Strategies practice, says that the SMB marketplace is incredibly heterogeneous and buying patterns are determined largely by business size.

For example, says Hilton, very small SMBs (10 to 100 employees) will behave in a "consumerlike" fashion when shopping for IT telephony services and will

only be willing to choose IP telephony if it makes money for their business or makes their employees more productive. These types of SMBs, Hilton adds, are more likely to look to service providers for hosted IP services.

On the other hand, Hilton says, medium-sized businesses (more than 100 employees) are more likely to choose premise-based solutions where most of the equipment needed for IP telephony is onsite. Vendors such as Avaya, Nortel, and Mitel are all courting the SMB marketplace and are already encouraging customers to move to IP-centric PBX systems, says Hilton. But some medium-sized businesses that don't have extensive IT departments, adds Hilton, will consider hosted solutions.

Outsourcing Telephony

By 2006, the Gartner Group predicts, approximately half of all businesses may look to source IP telephony services. Gartner defines managed IP telephony as the deployment of IP PBXs managed remotely by service providers.

The Yankee Group's Hilton says recent survey results reveal that more than 50% of mediumsized businesses are willing to consider a hosted IP telephony solution, although a large chunk (33%) are concerned about possible costs. Only 8% of very small businesses (two to 19 employees) are willing to adopt hosted IP telephony. This, Hilton emphasizes, points to the need for service providers, such as SBC, Verizon, Comcast, Time Warner, and others, to consider offering hosted IP telephony solutions.

The appeal of hosted IP telephony shouldn't come as a surprise: As businesses explore adopting IP telephony, many organizations strapped for resources will simply look to outsourcing providers for their telephony needs. It goes without saying that IP telephony is a complex undertaking, requiring expertise that straddles the datacentric IP world and the voicecentric traditional telephony world. In many cases, businesses unwilling or unable to hire or develop in-house expertise will have no choice but to choose an outsourcing provider.

Barriers To Adoption Still Exist

In spite of IP telephony's promise, not every SMB is jumping on the bandwagon. The Yankee Group survey found many reasons why SMBs are hesitant to adopt IP telephony systems.

The primary reason cited by the majority of respondents, the survey found, is cost: Many SMBs felt the cost to upgrade to an IP telephony solution is too large. As you might expect, the largest percentage of respondents who cited cost as a major obstacle to adopting an IP telephony solution were in the SMB segment with the smallest number of employees (20 to 49).

Other reasons range from satisfaction with current phone systems to a lack of knowledge

about new technologies. Some SMBs cited discomfort with adopting or using new technology as a barrier against migrating to IP telephony, while others were unable to develop a business case for IP telephony.

Weigh The Pros & Cons

IP telephony adoption is on the rise, especially among SMBs looking for every opportunity to reduce costs and make their workforces more productive. But the

promise of IP telephony comes at a price: Businesses must realize that IP telephony is a new IT technology and must be prepared to face the costs of owning and maintaining that technology.

A major concern with surveyed SMBs is the fear that network problems usually affecting traditional IP applications, such as email and Internet access, will now affect telephone service, as well. To minimize disruptions, businesses should carefully and realistically assess their capabilities. That assessment will determine the type of business arrangement (in-house or outsourced) that will deliver the most sensible IP telephony solution.

The IP Telephony Market

U.S. COMPANIES CONSIDERING VOIP MIGRATION

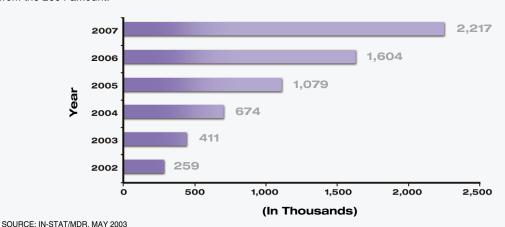
According to data collected by Nortel Networks in November 2003, 67% of U.S. companies were not planning to migrate their telephony systems to VoIP.



SOURCE: NORTEL NETWORKS, NOVEMBER 2003

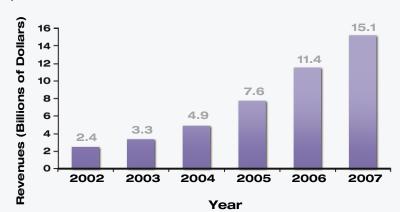
NUMBER OF FIRMS WITH IP TELEPHONY

Market research firm InStat/MDR predicts that the number of firms with IP telephony in 2007 will more than triple from the 2004 amount.



WORLDWIDE IP TELEPHONY EQUIPMENT REVENUES

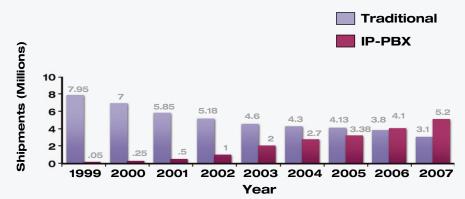
By 2007, worldwide IP telephony equipment revenues will increase to \$15.1 billion, or approximately three times the size of the marketplace in 2004.



SOURCE: IDC, JANUARY 2003

TRADITIONAL & IP-PBX LINE SHIPMENTS, U.S.

Market data indicates that sales of IP-PBXs will continue to increase through 2007, eventually composing the majority of PBX shipments.



SOURCE: TEQConsult Group/Telecommunications Industry Association, January 2004

Bring The Office With You

PalmOne Treo 650 Smartphone Provides Enhanced Functionality For Mobile Users

by Joseph Pasquini

MOBILE PROFESSIONALS and gadget lovers alike are continually searching for a device that best provides the flexibility of wireless connectivity with the organizational features of a PDA. PalmOne hopes to capitalize on this search with its release of the Treo 650 smartphone. The Treo 650, which was preceded by the Treo 600, is the first Treo device released under the PalmOne brand name.

The Treo 650, running version 5.4 of the Palm OS, uses a 312MHz Intel PXA270 processor and features 32Mb of built-in nonvolatile memory to protect data even when the phone needs to be recharged. An MMC/SD expansion slot is also built in. The luminous TFT display has been updated to a higher resolution of 320 x 320 pixels. An improved QWERTY keyboard is now backlit and features a new design for easier typing. The battery is now also removable.

The Treo 650 is available in two configurations: either as a digital dual-band CDMA/1xRTT or as a quad-band GSM/GPRS/EDGE world phone. Sprint, Verizon, and AT&T/Cingular have announced plans to carry the device. Integrated Bluetooth technology allows users to communicate with headsets, computers, and other devices that are Bluetooth-enabled.



SNAPSHOT

PalmOne Treo 650 Smartphone

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A full-featured optimized Web browser allows users to view virtually any Web site. Ringtones and applications can be downloaded directly to the Treo 650. The Web browser features standard navigational icons. HTML pages can also be saved to an expansion card for later viewing.

The Treo 650 comes with the standard suite of Palm organizational tools: Calendar, Contacts, Tasks, and Memos. It also comes with VersaMail, which supports POP and IMAP email clients. With Versa-Mail, users can either download email remotely or sync directly with their desktops.

Of interest to many professionals will be the Treo 650's built-in support for synchronizing with Microsoft Exchange Server. Users can also view, edit, and create Wordand Excel-compatible documents. PowerPoint presentations can also be viewed on the Treo 650, but they cannot be modified.

The Treo faces competition from numerous other wireless devices, including offerings from Sony, Samsung, BlackBerry, and HP. However, PalmOne sees its latest offering as a cut above the rest. Michelle White, product manager for the Treo 650, says, "The Treo 650 excels above these products as it was designed from the ground up as a phone first."

Remote Access Appliance Virtual Booth 3894 • Virtual Product 1760



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SNAPSHOT

St. Bernard SecurityEXPERT

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holes but puts the results into a more logical framework based on the role of the machine

This approach not only helps identify vulnerabilities or security holes but puts the results into a more logical framework based on the role of the machine. Bernard adds, "Another high-value proposition in SecurityEXPERT is the presentation of all the included expert guidelines side-byside so that the end user can make highly informed decisions on systems security without having to hunt around for individual recommendations. Any conflicts that the experts have regarding the value of a particular security setting are easily identified and can be resolved."

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security foundation in the first place. Marcus Ranum, chief security officer for Tenable Security and author of "The Myth of Homeland Security," says, "You don't need to patch production systems unless [you] make your production systems Internet-facing or have them on a network that's full of insecure Internet-facing systems." While it is true that applying more solid perimeter securi-

St. Bernard's SecurityEXPERT

by Tony Bradley

PATCH MANAGEMENT HAS BECOME a full-time responsibility

for many network administrators. Some experts, however,

argue that patching is not as important as providing a better

Takes A New Approach

ty while removing questionable or frivolous services and applications internally would make the network substantially more secure, it is still a reality for many network administrators that they must remain aware of the latest vulnerabilities affecting their systems and have a plan for deploying the necessary patches.

Vulnerability scanners are one of the primary methods that network admins use to find the holes in their network security and prioritize the implementation of patches. Products such as eEye Security's Retina, Microsoft's free Microsoft Baseline Security Analyzer, the open-source application Nessus, or UpdateEXPERT from St. Bernard are designed to probe the systems on your network and report back to let you know what those systems are vulnerable to or what current patches are missing.

St. Bernard offers a different product, though. Jeff Bernard, product manager for SecurityEXPERT, says,

A Data Center On Wheels

APC's InfraStruXure Express Offers True Mobility

by Daniel P. Dern . . .

It's EASY TO THINK OF APC as just a vendor of UPSes and surge protectors, but as anyone who's followed the company recently knows, APC offers power and environmental solutions way "up the stack," from wire-closet rack products up through computer rooms and data-center-level solutions based on its InfraStruXure approach.

APC's recently announced InfraStruXure Express offers an interesting twist. It's essentially a data center in a truck—just add servers.

Billed as a truly mobile data center, APC's InfraStruXure Express fits inside a 53-foot-long specialty trailer (included, wheels and all, in the roughly \$1.5 million price) and includes all the components that make up a Tier IV (redundant power and cooling) data center: racks, power protection/generation, cooling, and other management/security accoutrements.

All you have to do is add and configure standard IT equipment such as servers, storage, and network gear. There's 500U of rack space, typically enough for 125 to 250 servers or other devices.

This, according to Tapleigh Fallon, product information manager at APC, "equates to a 2,000- to 2,500-square-foot traditional data center, which can cost around three times as much as an Infra-StruXure Express."

An InfraStruXure Express, according to APC, doesn't require any existing IT space or preparations at the intended location.

Who would use this? "It's a complete, ondemand data center, good for business continuity and disaster recovery, and allows a company to have a proactive strategy against catastrophic events," states Fallon. "It lets a company react quickly to an event you weren't planning for and can provide a transitional area, such as for when doing data center or server consolidation."

Other possible uses for APC's Infra-StruXure Express are events where mobile, short-term IT support is appropriate (such



SNAPSHOT

APC InfraStruXure Express

Mobile Tier IV-class data center housed in a 53-foot tractor-trailer truck, including power and management, as well as space for up to 500U of computer/network equipment

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as festivals and sporting events) or catastrophic action teams that have mobile IT needs (such as insurance firms and governmental agencies). Additionally, according to APC, InfraStruXure Express is available with militarized modifications suitable for military deployments.

The InfraStruXure Express' NCPI includes two 40kW Symmetra UPSes with 2N redundancy, a 130kW integrated power generation system, a 50kW Network Air inrow computer air conditioner, and APC's InfraStruXure Manager appliance, a browser-accessible tool that lets users manage the entire NCPI.

The Network Operating Center's management/security features include 11 LCD monitors and room for eight people to work (including two seating areas), satellite connectivity, a card-access 24/7 closed-circuit TV security system, and an FM200-based, fully contained fire suppression system.

The InfraStruXure Express is available immediately in North America for purchase or lease, with major production beginning in July 2005. 🔃

Cisco Adds Enhancements To CallManager Software

Version 4.1 Offers Better Security & Privacy For VoIP Calls

by Daniel P. Dern . . .

FOR FINANCIAL, MEDICAL, and many other organizations, security of telephone calls and conversations is essential, which means that any proposed company use of VoIP needs to include the ability to secure VoIP calls.

With version 4.1 of its Call-Manager software, Cisco has added increased call security by adding encryption support for media (for privacy and security of voice and/or video) and signaling (telephone signaling packets sent among the devices).

"This extends security to more phones [and to] the gateways," according to Hank Lambert, a

director of product marketing in Cisco's IP Communications Business Unit.

Other enhancements and new features in 4.1, according to Cisco, include improvements in the signaling and in-call coverage, as well as forced account codes. CallManager 4.1 now also interoperates with a wider range of Cisco's Media Gateways, including the Integrated Services Router line, enabling encryption of voice media and signaling

The 4.1 upgrade, says Lambert, applies to all 7940G and 7960G Cisco IP phones (which includes the installed base of 2.5 million 7940G/7960G phones).

CallManager software can run either on Cisco's Media Conver-



SNAPSHOT

Cisco CallManager 4.1

Version 4.1 increases the security for VoIP calls made among clusters of Cisco CallManager clusters by adding encryption and signaling

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gence Servers or on third-party servers from HP or IBM.

"This gives our VoIP traffic a high level of privacy assurance while protecting our existing investment in the 3,000+ Cisco IP phones we have already deployed worldwide," states Kevin Wetzel, director of Global Operation Services for specialty chemical products maker H.B. Fuller Company.

To make use of these security features, calls have to be made among similarly capable Call-Managers within a cluster, or a gateway managed by the same CallManager cluster, according to Lambert. (Wireless VoIP handsets use 802.11 security, such as LEAP or WPA, to protect the wireless connection.)

"This demonstrates Cisco's commitment to enhanced security,"

comments Irwin Lazar, senior analyst at the Burton Group. "For large companies, like those in the financial industry, looking at VoIP and at its security threats, this should set their minds at ease."

"The most meaningful thing is the ability to support encryption on the existing 7960 and older Cisco handsets," Lazar adds. "This gives Cisco's installed base enhanced capabilities for security, which is becoming a more important concern for VoIP users." Also, says Lazar, "The support for media gateway encryption means that call managers can safely talk to each other."

According to Cisco's Lambert, the new features use hardwareassisted encryption, so the additional latency is only single-digit milliseconds.

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Has Microsoft Changed Its Tune?

Redmond Alters Its Position On The Values Of Open Source

by David Garrett

"It's a tectonic shift," says Carmi Levy, senior research analyst for the Info-Tech Research Group. "It's akin to starting to take down the Berlin Wall."

What's he talking about? Nothing short of a sea change from Microsoft, the world's loudest—and largest—opponent of the open-source movement. The Redmond giant has now released three open-source projects to the public, including its Windows Installer XML. Versions of Microsoft's C Sharp and the CLI for .NET have been licensed for noncommercial use on FreeBSD for some time.

Under an open-source license, volunteers write programs by making their work (and its source code) free to anyone who'd like to see it, use it, and even tweak it themselves. So it's no surprise that Microsoft, which reaps billions on software per quarter, has long seen open source as a cancer.

But the company's recent open-source forays have the industry asking what's up Microsoft's sleeve and why the world's largest maker of software would dip its toes into water it's long considered too hot.

It Was Time

According to Levy, who follows opensource trends and their impact on the small-to-midsized business, Microsoft had little choice in the matter. (Disclosure: Info-Tech analysts write a regular column in Processor.)

"The market has changed in the last few years," says Levy. "Open source is no longer solely the domain of geeks. Linux on servers—even Linux on desktops—is an increasingly more viable option for the enter-



SourceForge.net is the world's largest collection of open-source software, with nearly a million projects in current development.

prise. They're getting simpler to implement on both server and desktop platforms."

And that spells trouble for Redmond. Firms that used to be wrapped up in Microsoft are starting to wonder if Windows and Office are "the be-all and end-all of their next software choice," says Levy. And they're starting to see apostasy from Microsoft as a real and cheaper alternative for building their infrastructures.

Frail Arguments?

Always fighters, Gates, Ballmer, et al. have attacked the open-source movement on two grounds in the past few years. First is quality.

"According to Microsoft," says Levy, "it could be a kid in Finland who's writing your code, and there's no quality control in the process. It's also subject to design by committee, and it could be rife with bugs. So Microsoft argues their code will always be of higher quality than open source."

Microsoft's next argument is subtler. "If you're sued and your software is part of the lawsuit," says Levy, "such as a wrong calculation in an Excel spreadsheet, Microsoft claims you have legal recourse. You're protected by their license, which is not so with open source."

But experts are quick to doubt both of Microsoft's claims, noting that open source is becoming more stable by the day. (Witness the fact that Apache is now running the majority of the world's Web servers, while Windows servers have new bugs reported every week.) Few people believe the indemnification issue can pass muster, either.

Or, as Levy bluntly puts it, "I think Microsoft is grasping at straws."

The Open Future

But the mere fact that Microsoft has started to play with open source is a sign of things to come. Company spokesmen admit that Microsoft will likely release more source code in the future as it tries to broaden its hold on the software market.

Why? Because the ranks of open-source users are growing daily. Says Patrick McGovern, director of SourceForge.net, the world's largest collection of open-source software: "We have over 930,000 registered users. So releasing a piece of software on SourceForge.net means getting your code in front of a huge bunch of people who will download, consume, and modify it."

Indeed, SourceForge.net has more than 90,000 registered projects in development, with volunteer coders from every point of the globe working to make open source a real power in the software market.

According to McGovern, those coders have welcomed Microsoft's overtures. But whether Microsoft continues to welcome them is still in question. After all, you can't change a firm the size of Microsoft on a dime. Says Levy, "It's like trying to change the course of the Titanic before it hits the iceberg."

With Microsoft, whether it's smooth sailing from here is anyone's guess.

To Be Or Not To Be

To qualify as open source, a piece of software has to meet the standards of the Open Source Initiative. For instance, the software's author may not collect royalties on its use. Users must be able to access the program's source code. The author must let users modify the work under the program's original name. And no person or group can be denied access to the program.

MPC Enters The IP SAN Market

DataFRAME 420 Offers Affordable iSCSI Connectivity

by Joe Lazzaro

As an IT manager or data center coordinator, your job requires the management of large quantities of data. As storage demands increase, many businesses are turning to storage area networks to cope with huge quantities of

data and to move information without slowing down the rest of the network.

MPC Computers recently introduced its first IP SAN system, the iSCSI-based DataFRAME 420. This replaces the Fibre Channel-based DataFRAME 310fc and allows small to midsized businesses to connect a SAN to the network using less expensive iSCSI and Gigabit Ethernet technology, thus cutting costs and increasing scalability.

Alex Smith, MPC's director of server/storage product development, says, "The DataFRAME 310fc, our Fibre Channel storage product we launched last year, is about twice as expensive per megabyte as the newly released Data-FRAME 420."

The DataFRAME 420 comes bundled with 16 hot-swappable SATA drives. Each drive has a 4TB storage capacity per 3U enclosure, and users can add an unlimited number of enclosures as storage demands grow. To increase reliability, the unit includes redundant, hot-swappable power supplies and cooling fans. The DataFRAME 420 supports RAID 0, 1, 5, 10, and 50.

SNAPSHOT

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As part of the standard system configuration, MPC is offering three years of onsite service, replacement parts, and technical support. For an additional charge, two-, four-, or eight-hour onsite service is also available.

QoS Access Router Virtual Booth 3895 • Virtual Product 1762



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Software License Compliance

An Ounce Of Prevention Is Worth A Pound Of Cure

by Mick Maqbool

SINCE THE LATE '80s and early '90s, tales of software piracy and its consequences have haunted businesses of all sizes. Businesses rushed to create assessment schemes to assure software license compliance, spurred on by horror stories: disgruntled employees reporting piracy by their former employers to collect rewards, employees being "planted" by software manufacturers to fish out pirates, and enormous fines imposed on certain transgressors.

Today, however, many resources and programs have become available to help businesses and individuals monitor and maintain their software compliance.

Licensing Schemes

The first order of business is to understand the definition of piracy. Visions of software pirates as underworld thugs cranking out copies of software in their basements should be dispelled: Piracy, aside from making illegal copies of software for private use or profit, is also indicated in cases where any part of the licensing scheme of the software is violated.

Software licensing is usually a variation of one or more of these

three basic licensing rules: singlenode licensing, where each installation node needs a license; site licensing, where each installation node needs a license, but they are bought in volume to drive the individual license price down anywhere from 20% to 50%; or concurrent licensing, where the software may be installed on more than one location but can only have the number of simultaneous users indicated by the license.

Compliance Resources

So how do companies ascertain they are software-compliant? Needless to say, tracking software usage and installations can get rather complicated. Help is out there, however, in the form of organizations such as the Business Software Alliance (www.bsa.org) and the Software & Information Industry Association (www.siia .net), two organizations that are authorities in defining the rules of software compliance.

The organizations' membership includes some of the biggest names in the IT industry, such as Microsoft, Adobe, Cisco, IBM, and Intel. Along with establishing the guidelines for piracy and the means to stop it, including piracy telephone hotlines, they offer many resources that help organizations manage their software assets and maintain compliance.

These resources include audit tools such as WebCensus from Tally Systems (603/643-1300; www.tallysystems.com) and Discovery from Centennial Software (503/238-7455; www.centennialsoftware.com). These tools are subscription-based, and the total cost, as with most other software, depends on the number of PCs to be monitored.

These applications, which are only two of many available from other manufacturers, have slightly different feature sets, but all are easily deployable to client workstations from a central location and essentially provide the same core services. These include the ability to inventory software installed across the network (as identified by

an updateable list of recognized apps), as well as the ability to continually monitor software usage and software addition and removal on networked PCs. These applications also generate reports on software usage statistics, as well as the number of licenses vs. the number of installed copies.

Formulating Policy

The applications discussed here are highly useful tools. As with any other radical policy change, however, changes should be implemented from top to bottom in the business process model, not just by the introduction of a group of utilities at one level. Consider the following steps when you formulate policy regarding software compliance maintenance.

Streamline your purchasing. Designate a singular point of purchase through which all software and licenses are analyzed and approved by an employee knowledgeable in licensing.

Communicate. Hold meetings, make announcements, and distribute memos to employees regarding software licensing.

Self-audit. Perform periodic "self-audits," either manually or via audit software, destroy any illegal software, and remove related installations.

Delegate responsibility. Appoint an individual or group to the task of maintaining software assurance.

Seek outside help. Larger companies may wish to solicit the aid of the BSA or SIIA for an extensive introductory audit that can cost up to \$15,000, depending on company size.

Going to the BSA or SIIA first, in most cases, ensures that penalties will not apply and that you will be certified as compliant for one year, says Keith Kupferschmid, vice president of intellectual property policy and enforcement at SIIA. Kupferschmid adds that although software piracy is a "serious crime and can carry penalties ranging up to three times the value of the illegal software and even jail time," organizations such as the SIIA have equal, if not greater, focus on helping businesses become compliant.

All large organizations, and smaller ones that suspect they are not compliant, would be welladvised to contact the BSA or SIIA as part of the development of any software compliance policy. Aside from performing audits, the BSA and SIIA welcome questions and always have current information about software piracy guidelines on their Web sites, including trial versions of audit software.

Paying to get compliant now is far better than paying three times as much later and facing criminal charges. When it comes to license compliance, it has never been truer that an ounce of prevention is worth a pound of cure.

Compliance policy changes should be implemented from top to bottom in the business process model.

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Macworld Conference & Expo Jan. 10-14, 2005 Moscone Center, San Francisco, Calif. www.macworldexpo.com

WCA International Symposium & Business Expo Jan. 12-14, 2005 Fairmont Hotel, San Jose, Calif. www.wcai.com/event/05/ts11gen.htm

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- FEBRUARY -

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VoiceCon 2005 Feb. 7-10, 2005 Walt Disney World Dolphin Hotel, Orlando, Fla. www.bcr.com/voicecon

Southern California Linux Expo Feb. 12-13, 2005 Los Angeles Convention Center, Los Angeles, Calif. www.socallinuxexpo.org

CompTel/ASCENT Spring 2005 Convention & Expo Feb. 14-17, 2005 Morial Convention Center, New Orleans, La.

New Orleans, La.
www.comptelascent.org/events
/new-orleans/index.html

LinuxWorld Conference & Expo Feb. 14-17, 2004 Hynes Convention Center,

Boston, Mass.
www.linuxworldexpo.com

RSA Conference 2005 Feb. 14-18, 2005 Moscone Center, San Francisco, Calif. 2005.rsaconference.com/us

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Feb. 28-March 3, 2005 Hilton New York, New York, N.Y. www.jupiterevents.com/sew/winter05

- MARCH -

RFID World
March 1-3, 2005
Gaylord Texan Resort, Dallas, Texas
www.shorecliffcommunications.com
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Premier 100 IT Leaders Conference March 6-8, 2005 JW Marriott Desert Ridge Resort, Scottsdale, Ariz. www.premier100.com

Network Storage Conference March 7-9, 2005 Embassy Suites Hotel, Milpitas, Calif. www.networkstorageconference.com

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Help Desk Institute Annual Conference & Expo

March 7-10, 2005 Venetian Resort, Las Vegas, Nev. www.thinkhdi.com/trainingEvents /annualConference

Spring 2005 VON Conference & Expo March 7-10, 2005 San Jose Convention Center, San Jose, Calif. www.pulver.com/von/index.html

What's Next ?

Armor Plated DVD Media

DVD has emerged as an extremely popular disc format for both entertainment and data storage. The 4.7GB of capacity offered on a typical SSSL (single-sided singlelayer) disc allows significant storage for files and all types of media, as well as backups for any home or office system. Even with SSDL (dual-layer) drives and media now reaching the marketplace, the industry is working on advanced DVD technologies, dubbed Bluray and HD DVD, respectively, that may soon overshadow current DVDs. One of the major obstacles facing next-generation DVD media is scratch sensitivity. The higher data densities offered by Blu-ray (50GB) and HD DVD (30GB) mean that discs are likely to be far more sensitive to surface scratches, especially Blu-ray discs, where the data layer is located closer to the disc surface.

TDK has developed a scratch-resistant coating that may be an

ideal solution for Blu-ray discs, allowing Blu-ray media to remain "bare" (like current CDs and DVDs) and preventing the need for clunky protective housings. While TDK's coating has been out since earlier this year, the computer industry is taking notice. HP has announced the inclusion of Blu-ray drives in its PCs starting in later 2005. Dell is also opting for Bluray technology in future systems. Given the support by such industry heavyweights, it is likely that Bluray drives will become a predominant feature in next year's computers, helping the proliferation of affordable Blu-ray media.

■ Casting Off The Ks

AMD has long used the K designation for their processor line. Its K6 processors brought AMD to the forefront in the 1990s, while its K7 and K8 processors are known to the industry by their common brand names: Athlon and Opteron. However, with Intel's move to adopt an entirely new numbering

scheme for their processors and AMD's recent efforts to diversify their processor line for different markets, the traditional K designations are less relevant. AMD will abandon its K designations in later 2005 with the release of dual-core processors (previously dubbed K9). Beyond that, AMD plans to release their advanced Pacifica processors in 2006.

Identity Crisis

Ecommerce has emerged as a major business endeavor. One of the great benefits of ecommerce is that it provides global access to information, goods, and services free of the physical constraints of typical commerce. For example, pay bills online without having to mail checks, check the value of your stock portfolio, and then shop online and have products delivered. Still, ecommerce is faced with the looming specter of fraud-typically due to identity theft perpetrated by phishing scams, spyware, and even organized crime. Such fraud

is causing escalating losses for ecommerce vendors who often must absorb such losses when instances of fraudulent purchases are identified.

The problem for online vendors is authentication, verifying users are who they claim to be. Unfortunately, no foolproof system yet exists for such verification (beyond the traditional means of user names and passwords). Industry leaders such as RSA Security believe that if the problem continues to grow, some vendors may limit their ecommerce support or abandon it entirely. The Liberty Alliance is an open-standards body working to develop an identity methodology that can authenticate users more reliably (and with greater certainty) than current methods. Alliance members (such as HP, Nokia, and Sun) have developed some basic technical infrastructure, but the group still faces enormous challenges to establish a uniform industry-wide authentication standard in the next few years.

WHAT'S HAPPENING

Cracking The Code

IT Leaders Define Code Of Conduct For Socially Responsible Business Practices

by Stephen J. Bigelow

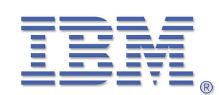
TODAY'S BUSINESSES ARE COMPLEX AND DYNAMIC endeavors. An enterprise frequently turns to a large array of subcontractors and vendors for the timely design, manufacture, and distribution of their products. This synergy of complementary business efforts has spawned a globalization of the world's economy. For example, a manufacturer in the United States may have a new IT product built in China, using code developed in Russia, supported by a help desk in India. Of course, each link in that chain relies on its own vendors and subcontractors to supply specialty products or services. Still, business practices are hardly homogonous, and increasing social and environmental concerns are prompting IT leaders to re-emphasize the role of "social responsibility" in businesses.

Societal Concerns

Theo Fletcher, vice president of Import Compliance at IBM, says that today's business has an active role in everyday society. "Businesses operate in an environment in which societal concerns are as important to the public's perception of a company as its accounting practices and financial performance." Corporations must act as citizens, bringing a set of ethical values to their activities. "Corporate responsibility is about managing a company in a way that maximizes benefits to society while minimizing negative impacts," he says. Thus, the goal of profit simply isn't enough. Companies that focus solely on profit and ignore the social implications of their business efforts risk public backlash, governmental penalties, and even eventual extinction.

The key to solid corporate citizenship, says Fletcher, is a strong set of values directed from top management to their employees. "In fact, the focus on values and on managing a company in accordance with these values goes back to IBM's birth, when Tom Watson, Sr. pioneered the idea of a company built on and run by a common set of strongly held values, the famous

IBM Basic Beliefs. For nearly a century, those beliefs guided IBM to a number of notable firsts, from hiring and promoting women, minorities, and the disabled to innovations in employee health and environmental programs



to progressive policies in benefits and compensation." Such values then form a foundation for relationships with clients, suppliers, investors, communities, and even nations.

Walking The Walk

One of the problems with such global interdependence is that one vendor's failure or questionable activity can reflect poorly on you and interrupt critical materials or services that might ultimately impact your own revenue. Consequently, Fletcher says that monitoring the behavior of each vendor is every bit as important as quality testing on their parts. "If you tend only to your own firm's conduct, that can leave you vulnerable to your supply chain's weakest links. And business leadership in today's interconnected global marketplace means, as a practical matter, finding a way to influence all supply chains—not just your own—to adopt a common set of standards for socially responsible behavior."

Fletcher points out that industry leaders such as IBM have long worked to encourage social responsibility. "The social responsibility of extended supply chains isn't a new concern for us. We have been working actively to raise the standards of behavior among our suppliers for years, mainly in the area of environmental practices." IBM has worked closely with Dell and HP to develop a uniform Electronics Industry Code of Conduct (also simply called the Code). This new initiative covers a lot of ground. "The Code outlines standards to ensure that working

conditions in the supply chain are safe, that workers are treated with respect and dignity, and that manufacturing processes are environmentally responsible. The Code encourages participants go beyond legal compliance, drawing upon internationally recognized standards, in order to advance social and environmental responsibility." Fletcher also says, "At IBM, our suppliers must sign a contract of their adherence to the supplier code. IBM also has engaged an outside firm to conduct independent monitoring and auditing programs."

Unity & Consistency

But a new code of conduct is useless without monitoring and enforcement. "The release of the Code paves the way for a standards-based approach for monitoring suppliers' compliance across several areas of social responsibility, including labor, health, safety, and environmental activity. It's an important first step toward encouraging more companies to promote sound and ethical business practices across the entire global supply chain," notes Fletcher.

With other industry heavyweights such as Dell, HP, and many other manufacturers already onboard, Fletcher believes that a standard code of conduct will be easier to implement and enforce. "Until now, different companies have deployed their own codes of conduct, subjecting suppliers to multiple, independent vendor audits examining different criteria. The adoption of one code eliminates the need for multiple audits and increases efficiency," he says.

Fletcher emphasizes that the new Electronics Industry Code of Conduct is available to the entire industry. "The Code may be voluntarily adopted by any business in the electronics sector and subsequently applied by that business to its suppliers. The participating companies invite other companies to review and adopt the code, the text of which is available upon request and at each company's Web site. Businesses interested in adopting the code may contact HP: www.hp.com/hpinfo/globalcitizenship/environment/pdf/supcode.pdf."

Ultimately, the entire industry will benefit from this emerging initiative, which will undoubtedly evolve as more businesses embrace this ethical renaissance. "Each company will set its own expectations for performance; however, we all recognize this is a process and that there is room for improvement. That is why we have come together as an industry to address the issues. The Code is a significant step in the right direction for all involved," says Fletcher.



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WLAN Security System

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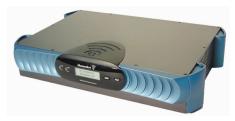


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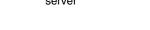
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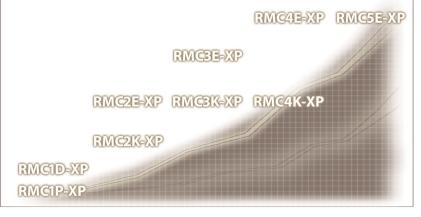
AIC designs a full range of Storage Sever Chassis for OEM and system integrators to support terabytes of capacity. Storage

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Storage Server Series





RMC2E-XP

Dimension: 19"(W) x 27"(D) x 3.5"(H)

Drive Bays:

12 x SATA, PATA or SCSI hot-swap bays + 1 x 2.5" internal HDD

Power Supply: 300W~460W ATX/EPS PFC

Motherboard:

12" x 13" ATX/SSI EEB 3.0



RMC3K-XP

Dimension: 19"(W) x 27"(D) x 5.25"(H)

Drive Bays:

1 x slim CD/FDD combo + 1 x 5.25" + 12 x SATA, PATA or SCSI hot-swap bays + 1 x 2.5" internal HDD

Power Supply: 460W~650W ATX/EPS PFC single or redundant power supply

Motherboard: 12" x 13" ATX/SSI EEB 3.0

Capable Storage:



RMC3E-XP

Dimension: 19"(W) x 27"(D) x 5.25"(H)

1 x slim CD + 1 x slim FDD + 1 x 5.25" + 16 x SATA, PATA or SCSI hot-swap bays

Power Supply 460W~650W ATX/EPS PFC single or

redundant power supply Motherboard: 12" x 13" ATX/SSI EEB 3.0

Capable Storage: 4TB





RMC1P-XP **Dimension:**

17.25"(W) x 29"(D) x 1.75"(H)

Drive Bavs: 1 x slim-CD x 3 x SATA, PATA or SCSI hot-swap bays

Power Supply: 250W~400W 1+1 HRP hot-swap redundant power supply

12" x 13" ATX/SSI EEB 3.0 **Capable Storage:** 750GB

Motherboard:

RMC1D-XP

Dimension: 19"(W) x 27"(D) x 1.75"(H)

Drive Bays:

1 x slim-CD + 1 x slim FDD + 4 x SATA, PATA or SCSI hot-swap bays

Power Supply: 400W ATX/EPS PFC power supply Motherboard:

12" x 13" ATX/SSI EEB 3.0 **Capable Storage:**

RMC2K-XP

Dimension: 19"(W) x 27"(D) x 3.5"(H)

Drive Bays:

8 x SATA, PATA or SCSI hot-swap bays + 1 x 2.5" internal HDD

Power Supply: 300W~460W ATX/EPS PFC P/S

Motherboard: 12" x 13" ATX/SSI EEB 3.0 Capable Storage:



Dimension 19"(W) x 20"(D) x 7"(H)

Drive Bays:

 $1 \times slim CD + 1 \times slim FDD + 12 \times CD + 12 \times$ SATA, PATA or SCSI hot-swap bays

Power Supply: 460W ATX/EPS PFC single or redundant power supply

Motherboard: 12" x 13" ATX/SSI EEB 3.0 **Capable Storage:**

RMC4E-XP **Dimension**

19"(W) x 25.6"(D) x 7"(H)

Drive Bays:

24 x SATA, PATA or SCSI hot-swap bays + 2 x internal HDD

Power Supply: 950W 3+1 or 650W EPS-12 redundant power supply

Motherboard: 12" x 13" ATX/SSI EEB 3.0

Capable Storage: 6ТВ



RMC5E-XP

19"(W) x 25.4"(D) x 8.75"(H)

Drive Bays:

1 x slim CD + 1 x s3.5" + 1 x 5.25" + 24 x SATA, PATA or SCSI hot-swap bays + 2 x internal HDD

Power Supply: 950W 3+1 or 650W EPS-12 redundant P/S

Motherboard: 12" x 13" ATX/SSI EEB 3.0 **Capable Storage:**



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New Jersey office

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Low Power Mini-ITX

Virtual Booth 164 • Virtual Product 2135



- Small footprint
- Transmeta[™] Efficeon[™] TM8600, 1GHz+
- ATI M7 3D Graphics with 16MB Memory
- 10/100 BaseT / Gigabit Ethernet
- 4 COM ports, 4 USB 2.0, Watchdog Timer
- PCI Expansion Slot, Hardware Monitoring
- AC97 Audio



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Server Power Supply Virtual Booth 3743 • Virtual Product 1450

PSU Manufacturer for Rack Mount, Server & Desktop **OEM Welcome**

- Model: TOP-620RML
- Hot Swappable mini
- redundant power supply
- All 6DC output in each single module
- Dual A/C input (each single power with A/C inlet)
- Gold plate connector
- Total peak output 900W
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- Optional Active PFC at .99



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Redundant Power Supply Virtual Booth 3208 • Virtual Product 2137

- 460/550 watts total power
- N+1 Redundant Configuration
- Fit 2U Server Rackmount Chassis
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- Application Active Power Factor
- Correction
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- +3.3V, +12V • Power Fault Alarm Signals
- MTBF>100,000 hours
- 3-Year Warranty

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2U True Redundant PS

Virtual Booth 2795 • Virtual Product 1646



- Model No. TC-xxxR2U (350w/400w/460w)
- I-Star 3 Year Warranty Power Supply
- I-Star 2U Size Redundant Power Supply
- I-Star Hot-Swappable modules with ZERO downtime
- I-Star Each Module handles 50% load ensuring longer life
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WEB SITE: www.istarusa.com

Industrial ATX Power Supply

Virtual Booth 3881 • Virtual Product 2055



- Model: MPI-806H
- Universal Input Switching Power Supply
- 80W with 8.6 CFM forced air, 60W conventional cooling
- ATX output, remote ON/OFF, PG/PF Signal
- Compact Size: 3x5x1.5" (WxLxH)
- Short Circuit/Over Load Protected
- MTBF > 130,000 hours, 3-year Warranty • Contact us or visit our site for special Evaluation Program



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Remote Server Management

Virtual Booth 3643 • Virtual Product 1199



- 100% out-of-band remote monitoring & management reduces downtime for any mission-critical server
- · System independent, on-board modem, battery backup
- USB support for CD-ROM, keyboard & mouse, VGA support, hardware environmental monitoring, virtual boot, remote console redirection, auto server recovery, in-band management agents, crash screen capture, etc.



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Gigabit AntiVirus/AntiSpam Virtual Booth 3953 • Virtual Product 1861



C-Series PCI Content Security Accelerator

- Turbocharge your appliance, gateway, firewall and mail/web proxy product lines
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Gigabit Intrusion Detection

Virtual Booth 3953 • Virtual Product 1862



I-Series PCI IDS/IPS Accelerator

- Wire-speed IDS/IPS security processes in appliances
- Selection of 10/100, GbE interfaces
- Ultra-high speed 2.4Gbps processing Compatible with SNORT™
- Inline and look-aside mode of operation

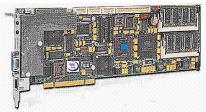
• 64-bit NodalCore™ Security Processing Unit



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Intrusion Prevention System

Virtual Booth 3716 • Virtual Product 1353



Interceptor - Stops Network Attacks in Real Time

- Internal & External Protection from DoS, DDoS, Worms,
- Viruses, Syn Floods, Trojans, Scans and Access Control · Listed by Gartner as "Pure Play" in IPS
- 6 Different Intrusion Detection Models
- · Integrated antivirus (Optional)
- · Config available supporting ADSL to Gigabit environment



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4-Port RS-422/485 PCI Card

Virtual Booth 2341 • Virtual Product 1946



- Four (4) 9-pin ports with baud rate from 75 to 921Kbps
- 16C650-32byte FIFOs+SW adjustable 8-128Kbyte FIFOs
- Auto detection between RS-422 & 485 connections • 600W Surge & 2.5KV Isolation protection
- Works with 32 & 64-bit PCI slot
- Industrial strength & reliability w/ transmission of 4000 ft
- Windows® 3.x/9x/Me/NT 4.0/2000/XP/2003, Linux, DOS



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RAID Controller

Virtual Booth 3121 • Virtual Product 1342



The Ultimate RAID Solution - ACS-8990 RAID Controller

RAID controller that utilizes SCSI host performance & leverage with the cost effectiveness of SATA & PATA IDE drives.

- U320 SCSI/2Gb Fibre to SATA RAID Controller
- RAID Level: RAID 0, 1+0, 3, 5, 30, 50

WEB SITE: www.accusysusa.com/

• Operating System: OS Independent & Host Transparent • CPU: Intel i80321 64-bit, 600MHz RISC microprocessor

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SATA RAID Adapter

Virtual Booth 4129 • Virtual Product 2104



4-Port Enhanced Serial ATA 1.5G RAID 0/1/10 Solution for workstations and entry-level servers requiring

data protection (RAID 1/10) or performance (RAID 0) • Supports Native Command Queuing and Tagged Command Queuing for better performance • Combine with SuperSwap 1100 or SuperSwap 4100 for an advanced internal storage system • Disk Activity LED Headers



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Serial ATA II HBA

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- Four 3Gbps Serial ATA Ports
- Hardware RAID 0, 1, 0+1
- Hardware Queuing • PCI-X Bus Interface
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- BIOS Configuration Utility
- Windows 2000/2003/XP/Linux



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FC Storage Adapters

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Celerity FC 2-Gigabit Fibre Channel storage adapters are designed to satisfy the needs of host systems and fabric devices. Featuring Advanced Data Streaming (ADS™) Technology, Celerity FC provides faster and more efficient transfers, thus maximizing ROI. Capabilities like an integrated hub design and Integrated Offload Processing Center (IOPC) provide connectivity and scalability options.



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4 Gb/s Fibre Channel HBAs

Virtual Booth 4142 • Virtual Product 2117



The Emulex LightPulse™ LP11000 HBA Family:

- Full bandwidth support at 4Gb/s Fibre Channel speed
- · Auto speed negotiation-integrates into existing 1Gb/s and 2Gb/s Fibre Channel SANs
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- PCI-X 2.0 mode 2, 266MHz bus compatibility
- Single/dual channel PCI-X 2.0 to 4Gb Fibre Channel model



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iSCSI Accelerator

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For the fastest, easiest to use and most affordable iSCSI Controller, try the Alacritech SES1001 iSCSI Accelerator -the only product that accelerates the Microsoft iSCSI Software Initiator. Based on Alacritech's proven SLIC Technology®, the basis of industry-accepted TCP/IP Offload Engine (TOE) solutions, the SES 1001 delivers unsurpassed iSCSI performance and efficiency.



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Server I/O Accelerator

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TiGiJet™ accelerators (Solid State: 2-6GB) eliminate I/O bottlenecks and dramatically improve the performance, scalability and ROI of enterprise-class applications.

- Accelerate MS SQL & Oracle performance up to 2300%.
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Bar Code Scanner

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LaserLite Pro combines a laser scanner and Touch Memory button reader with an alphanumeric keypad. An LCD screen, 256KB RAM, convenient one-handed operation, and lightweight metal housing makes the LaserLite Pro ideal for inventory, shipping and receiving, order entry, and any other data collection application.



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Data Collection

Virtual Booth 216 • Virtual Product 1584



Symbol PDT 6846

Features & Benefits

- 46-Key Alphanumeric **DOS-based Architecture**
- Forward Scanning • Ergonomics-comfortable

Ryzex sells, services, rents, buys and repairs all major brands of barcode data collection equipment.



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Data Collection Computer

Virtual Booth 3869 • Virtual Product 1704



The LINX VIII is a powerful data collection alternative for those situations when the familiar look and feel of the MS Windows interface and management tools are desired. Running Microsoft's next generation embedded operating system, CE.NET, the LINX VIII allows you to use your existing Microsoft desktop development skills with off-theshelf Visual Studio .NET to create managed code solutions.



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Remote Server Mgmt. Virtual Booth 3610 • Virtual Product 1151



Robust and Cost-Effective Global KVM Control

The multiuser SmartView World offers a unique mix of local (server room), regional (office-wide) and global (IP based) server control together with remote power mangement to match the needs of network managers. Integrated extender ports enable control consoles to be located in offices up to 650' away and linked via Cat5/6 cabling.



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Remote Server Management Virtual Booth 22 • Virtual Product 1233



UltraMatrix™ Remote

- Connects 1,000 computers to multiple user station over IP Secure encrypted operation with computer access control
- High-quality video up to 1,280 x 1,024.
- Advanced visual interface (AVI). Easy to expand.
- No need to power down servers to install • Free lifetime upgrade of firmware. Call for other models



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IP KVM

Virtual Booth 2888 • Virtual Product 988



Kaveman 16 - remote server management unit

- Up to 6 simultaneous, independent users
- Full BIOS level access and remote power cycling ability
- No software installation or additional hardware required • Uses 128-bit SSL encryption, other specialized security
- features (compatible with SSH and VPN environments) • Non-intrusive as stand-alone external hardware device



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WEB SITE: www.digitalv6.com

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Single-User KVM Switch Virtual Booth 22 • Virtual Product 1237



UltraConsole™

- Connects up to 1,000 computers to a KVM station
- Compatible with Windows, Linux, Solaris & other OSes
- Connects to PS/2, Sun, USB, or serial devices
- Security features prevent unauthorized access · Full emulation of keyboard and mouse functions for automatic, simultaneous booting. Easy to expand.



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KVM Command Center

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Control an entire network in just 1U rack space-includes keyboard, 15" LCD screen, touchpad and 16-port switching capability

- Tilt-up console, easy-slide drawer
- Two-level password security
- Daisy-chainable with additional KVM switches (model # B022-016) to control up to 512 servers
- Flash upgradeable



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1U/2U LCD Monitor/KB/MS Virtual Booth 1014 • Virtual Product 231



- 1U/2U Rackmount LCD/Keyboard/Trackball
- 15"or 17" TFT Color LCD
- Trackball or Touchpad
- 6U/8U Panel Mount Available
- Optional KVM Switch Functions



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December 10, 2004

Rack Mounted KVM Drawer

Virtual Booth 22 • Virtual Product 1241



RackView™

- 15", 17", or 19" LCD Panels
- Built-in single or multiple user KVM switch options
- Supports AT/XT, PS/2 and Unix computers
- Front Panel conceals unit when it is not in use
- · Keyboard available in international variations
- LCD flat panel and kybrd/trackball can be sold separately



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Rack Mount KVM Switch

Virtual Booth 2945 • Virtual Product 1191



Rack mount LCD/KB/MS KVM Switch

- 1U/2U rack mount TFT LCD monitor keyboard drawer
- 15"/17"/19" TFT color LCD rack mount monitor
- Touchpad mouse or trackball mouse • 4 / 8 / 16-port KVM switch available
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- Great Price Quality Service



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Virtual Booth 3999 • Virtual Product 1944



DVI, VGA, S-Video, Video image signal to DVI signal

- Input: 1 VGA, 1DVI, 1S-VIDEO, 1VIDEO
- Output : 1 DVI
- Compatible with DVI standard
- Power Supply : DC +12V, Power Consumption: 9W max
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- Supports SXGA, XGA, VGA



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KVM Extenders

Virtual Booth 3610 • Virtual Product 1150



Compact KVM extenders for standalone & high-density rack installations - Convenient remote control of a PC, Mac or KVM at a distance of up to 650' linked via Cat5/6 cabling. Supports PS/2, USB, RS232, dual video & broadcast-quality digital audio. For touch screen, industrial, broadcast, post production, presentation, security, financial services, marine, server mgmt & remote KVM control apps.



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Long-Life Battery

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Don't let your need for power keep you grounded - the PowerPad lets you take your work everywhere you need to go, without slowing you down. Leave power cords and electrical outlets behind & stay ahead of the competition. Lightweight and ultra thin, the PowerPad slides into your laptop's carrying case. Plug it in & you're 80% charged in 4 hours. Forget plugs for the rest of the day and night.



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Rugged Wireless Handheld Virtual Booth 3792 • Virtual Product 1601



- Supports up to 3 integrated radios (WWAN, PAM, WLAN) simultaneously
- Mobility XE™ Seamless Roaming Connectivity
- Exceeds military standards for drop, shock and water IP-67 sealing for dust and
- water intrusion Single-handed use
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- PXA 255 processor
- 64MB Compact Flash
- Windows CE.NET OS
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- front-lit color display



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WIN/Linux Mobile Server

Virtual Booth 3170 • Virtual Product 2115



NextCom, Nashua, NH announces FlexPCServer workstation and mobile server with single or dual Intel LV $Xeon^{\text{TM}}$ to 3.06GHZ. Extreme performance. Small footprint. Reconfigurable computing architecture. Serial, USB 2.0 high capacity drives to 500GB. MS Windows 2000 AS, XP Pro, SuSe Enterprise, RedHat, Desktop Linux, Solaris - x86, Win-Ux concurrent or dual boot.



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Multimedia Notebook Virtual Booth 3927 • Virtual Product 1810



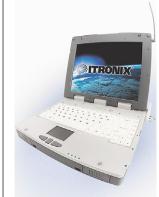
- Intel Processor with Centrino Mobile Technology
- Thin & Light with Semi-Rugged meets Military standard
- Magnesium Alloy casing and Spill Proof Keyboard Anti-Shock Mounted HDD to protect hard drive data
- ATI Radeon 9700 graphics with 128MB video memory • Brilliant 15.1 SXGA+ TFT display (res. 1400 x 1050)
- Wireless LAN Connectivity with Mini PCI 802.11 b/g



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Rugged Wireless Notebook Virtual Booth 3792 • Virtual Product 1757



GoBook II

- Meets military specifications for ruggedization
- Removable hard drive for security
- Simultaneous support of Wireless WAN, LAN, PAN
- Mobility XE seamless roaming connectivity Itronix iCareTM implementation & project mgmt
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TEL: 562-483-6767

FAX: 562-483-6760

Virtual Booth 3170 • Virtual Product 1310



Mobile Graphics Workstation and Mobile Server

The FlexSPARCIII is targeted at deployable military, aerospace, homeland security, imagery, and EDA applications. FlexSPARCIII is a truly innovative and disruptive technology platform, intended for use as a next-generation 64-bit mission-critical and mission-deployable enterprise open standards computing platform.



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PDA

BA

Virtual Booth 4037 • Virtual Product 1976

19" Versatile LCD

Virtual Booth 3695 • Virtual Product 0032



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- Easily transfer data from your handheld to your PC or Macintosh
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Encryption Device Virtual Booth 4144 • Virtual Product 2120



DiskCrypt provides cross platform compatibility and significant performance improvement over traditional disk encryption software solutions. This hardware based 192Bit Military Standard encryption module encrypts every byte and sector of data written into the hard disk, including (MBR), Operating System, Temp and Swap files. The DiskCrypt is engineered just like an ordinary 2.5" form factor hard disk and can be mounted to the notebook hard disk compartment. GSA Schedule #35F0405P



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December 10, 2004



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Virtual Booth 1864 • Virtual Product 83



The Printek MtP 400 4" Portable Thermal Printer

A rugged, portable thermal printer, it features a version that is the thinnest in its class. It is ideal for printing labels, receipts, maps, and schematics. With a wide range of media options and versatile mounting or carrying configurations, you'll find the MtP 400 is the perfect mobile printing partner for your needs.



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Portable PocketJet Printers

Virtual Booth 3951 • Virtual Product 1860



High-quality output, rugged compact design with a low cost of ownership describes the Pentax PocketJet printer. This printer produces crisp text and graphics with an output of 3ppm while weighing less than a pound. Designed to meet the growing needs of mobile workers, this printer can provide printing in any environment without the ongoing cost and hassles of ink.



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HP Laserjet Duplexers Virtual Booth 190 • Virtual Product 1756



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Mobile Scanning Virtual Booth 3951 • Virtual Product 1859



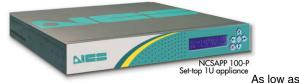
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Network Surveillance Server Virtual Booth 1329 • Virtual Product 2039



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December 10, 2004

XML Accelerator

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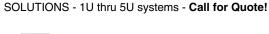
3U AMD Server Chassis

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Fr: can't afford to

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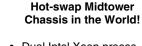
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PC/104+ Daughter Card Virtual Booth 4126 • Virtual Product 2100



The Zendex ZXE/104P, a USB2.0/FireWire/Ethernet (10/100Mbits/s) add-on combo card for any PC/104 or PC/104+ application, provides three types of high-speed ports for the price of just one. It is useful for applications with numerous optional peripheral devices or for systems that may require peripheral field-upgrades.



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Dual-Xeon PCI-X SBC

Virtual Booth 164 • Virtual Product 2136



Industrial Full-size PICMG SBC

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- ATI Mobility M7 VGA, Embedded 32MB
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- Supports ISA High Drive • 10 Layers CPU Board
- TECHNOLAND BOWER YOUR CROWN

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Virtual Tape Library Appliance Virtual Booth 3723 • Virtual Product 1445



The VTL Standard Edition Appliance, powered by IPStor®, is a turnkey solution that accelerates backup, enables rapid recovery, and consolidates management and provisioning of backup resources. It seamlessly accelerates the speed of existing third-party backup applications by using external disks to emulate industry-standard tape libraries.



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Disk-To-Disk Appliance Virtual Booth 3420 • Virtual Product 1633



iStoRATM 4000 Disk-to-Disk-to-Tape Appliance

Disk-to-Disk-to-Tape (D2D2T); Network file replication; Migration to tape for archive; Seamless retrieval from disk or tape. Integrates up to 1.5TB of Serial ATA disk; up to 3TB of uncompressed removable tape storage in a 1x10 autoloader; Intel server motherboard with Gigabit-Ethernet connectivity; single 4U-high rack mountable enclosure.



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Backup/Archiving Appliance Virtual Booth 3837 • Virtual Product 1631

Starting At \$1,495

RocketVault™ Backup & Archiving Appliance -- Simply the easiest, most cost-effective data protection solution available for smaller businesses and branch offices. Plug-andplay, installs in minutes; automated, unattended operation.

- Multiple configurations (including 1U, 2U): 240GB to 4TB
- Backs up servers, desktops, laptops locally and remotely
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Virtual Tape Library Virtual Booth 3697 • Virtual Product 1280



- Leverages the FC or IP protocol to transfer & restore data from a disk-based virtual tape at ultra-high speeds
- Connects to SCSI and Fibre Channel backup devices
- Eliminates per server software licensing/management & also media/mechancal failue during backup/restore ops
- Add a tape library w/o changing backup software
- Automate tape mirroring and vaulting



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Disk-To-Disk Backup

Virtual Booth 2919 • Virtual Product 193



Can vou restore critical data quickly? EzBACKUP can.

- No software drivers or IRQs required
- Hot swappable backup
- Expandable storage
- Speed of operation
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- Backup all, modified or selected files
- · Flexible backup scheduling
- Patent pending Hidden Device Technology



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Tape Backup Encryption Virtual Booth 3732 • Virtual Product 1438



Paranoia2 - Using Encryption to Protect Your Assets

- High-speed tape backup encryption and compression
- Transparent to operating system
- · SCSI or Fibre Channel interfaces
- No software drivers required
- · Desktop or 2U rack mount
- Platform independent



Digital Security International™

2703 Arlington Blvd. - Suite 101 Phone: (703) 527-8547 WEB SITE: www.DSIencryption.com/p2

Arlington, VA 22201 Fax: (703) 527-1220 EMAIL: sales@DSIencryption.com

Virtual Tape Controller Virtual Booth 3914 • Virtual Product 1783





The Mainframe Appliance for Storage (MAS) is a virtual tape controller for IBM System/390 and compatible mainframes, which uses open-system storage devices (SAN, NAS or SCSI) to store and retrieve mainframe tape data sets. The MAS provides improved Business Continuance through faster recovery of data and helps satisfy new SEC compliance guidelines.



129 Middlesex Turnpike Burlington, MA 01803 Phone: (800) 284-3172 Fax: (781) 272-0342 WEB SITE: www.bustech.com EMAIL: info@bustech.com

Tape Cleaner/Inspector Virtual Booth 3734 • Virtual Product 1439



- · Cleans, retensions & optically scans DLT, SDLT & LTO tape cartridges
- 200 inch-per-second operation (3-4 minute process time)
- Automatically advancing tissue cleans both sides of tape
- Most advanced optical inspector system available • Minimizes head wear and greatly reduces dropouts
- 10-cartridge autoloader and magnetic testing available



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Tape Degausser

Virtual Booth 4136 • Virtual Product 2110



The MDS-4 Media Degausser is designed to handle all formats of cassettes and tape reels up to 16 inches in diameter. The MDS-4 operates continuously without overheating in the low field strength setting and intermittently in the high field strength setting. The MDS-4 can erase tapes with coercivities up to 950 oersteds with widths up to 1 inch and 1500 oersted tapes with widths up to 8mm.



7500 Boone Ave. N. Minneapolis, MN 55428 Phone: (800) 447-1277 Fax: (763) 493-2295 WEB SITE: www.mspinc.org

Media / Disk Degausser Virtual Booth 4138 • Virtual Product 2111



- Erase your magnetic tapes and hard disks
- Comply with Privacy Act Regulations (HIPAA, GLBA) for media reuse and disposal
- · Meet NSA standards for complete erasure of magnetic tape and hard disk
- Legally prove due diligence for media reuse and disposal by meeting D.o.D. standards
- Sanitize information securely, quickly and safely
- Save money and time



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Data Storage Solutions Virtual Booth 3932 • Virtual Product 1817





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- Unbeatable data density, capacity and performance in a 2U rack mount form factor
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- Insert or remove any cartridge, without system interruption MPAK Technologies, Inc. offers top-of-the-line RAID, D2D & D2D2T Solutions.



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AIT Tape Library Virtual Booth 3798 • Virtual Product 1569

Spectralogic NAStape 200

drive



- Supports one 1/2" or 8mm
- Gigabit Ethernet Connectivity
- Supports iSCSI • Remote Management

capacity

- Three Year Warranty Trade-up program
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Rack Mount Library Virtual Booth 3817 • Virtual Product 1612





301897-B22

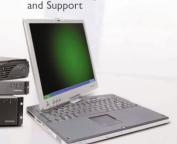
The HP MSL5030 defines a new segment in the mid range automation segment, with high availability features normally found on enterprise libraries. Multi unit scalability allows the library to grow with your performance and capacity requirements. The MSL5030 leads the industry in storage density with 2 Ultrium drives and 30 slots in a 5U design.



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6x100 DLT/LTO Library

Virtual Booth 3420 • Virtual Product 950



Need more capacity, but still want to use DLT and LTO technologies? 100-PAk provides up to 22TB of data storage capacity using 6 drives and 100 tapes. Data center backup. 6x100 with SDLT320, LTO-1, LTO-2 10 TB to 20TB. 1-slot mailbox for media management; hot swap drives; power on to ready in under 80 seconds Drives supported: DLT-8000; SDLT-220/320; LTO-1/LTO-2



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Virtual Booth 4061 • Virtual Product 2013



Compliant with USB 2.0 specification Supports multiple types of storage media - Memory Stick, CompactFlash, SmartMedia, MultiMedia, Secure Digital Hi-Speed data transfer rate up to 480Mbps LEDs indicate card insertion and data traffic Dimensions: 102mm x 102mm x 26mm 2-year warranty - Available in white and black

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CD-R / DVD+R Duplicator

Virtual Booth 3368 • Virtual Product 847

CD-R DVD-R/±R **\$990 \$1790**



Reflex Pro7 standalone CD-R & DVD±R duplicators NO HOST PC NEEDED!

Store frequently copied CD or DVD images in the ReflexPro7 Throughput: Duplicates at least 119 CD-Rs, 42 DVD-Rs or DVD+Rs per hour Drives: (7)52x CD-R drives or 8x DVD+/-R/48x CD-R drives Hard Drive: Includes 80GB (CD) or 120GB (DVD) for storing frequently copied discs Warranty: 1 year warranty & free lifetime technical support. Connect to a PC or Mac with an optional USB 2.0

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Fax: (856) 661-3458 EMAIL:info@discmakers.com

Blue-Laser Library System

Virtual Booth 3598 • Virtual Product 2020



AXIS-Blue Library System

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- Highly Reliable MSBF 1,500,000 Cycles
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Auto CD/DVD Duplicator

Virtual Booth 4036 • Virtual Product 1973



Professional High Quality, **Automated CD/DVD Duplicator System**

- Fast Robotic Handler
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- 200 Disc Capacity • 2 CD or DVD Recorders
- Integrated Windows PC
- · High Quality Inkjet or Thermal Printer
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8x DVD+/-R Standalone **Duplicator Tower w/ 40GB**

- Standalone Duplicator NO **HOST REQUIRED**
- Duplicate Both DVD+R and DVD-R formats at 8x spd
- Duplicate DVD-R to
- DVD+R/DVD+R to DVD-R LCD menu with simple
- one-button copy feature 40GB hard drive for
- DVD/CD image library • Fire Wire/USB 2.0 for
- PC/Mac connection as single burner



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Dual Format DVD Copier

Virtual Booth 3921 • Virtual Product 1796



DVD / CD-R Tower Duplication System from the leader in CD - DVD-R Duplication, Condre Technology. Featuring 8X / 24X recording speed for DVD and CD-R, with a USB 2.0 connection for direct interface to PC or Mac. Ruggedized enclosure with multiple cooling fans for 100% Duty Cycle Performance, supports both DVD - R and DVD + R. Call today for details!



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Blue-Laser Storage Device Virtual Booth 3598 • Virtual Product 2021



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- Robust design maintenance-free drive
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- Fast Access 11 MB/s maximum transfer rate
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Flash Drives

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Inject Speed Into Your Network

Decrease data access times and increase data transfer rates with the most innovative and reliable solid-state E-Disk flash drives and storage solutions • Rugged, pure solid-state & non-volatile • Fibre Channel, SCSI, IDE/ATA interfaces • 2.5", 3.5" form factors • Patented security, data protection features • Made in USA



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Solid State Storage

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Solid State Storage Virtual Booth 1923 • Virtual Product 225

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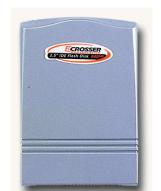
12600 Deerfield Parway, Suite 100 Phone: (800) 640-5862 WEB SITE: www.4ramdisk.com

Alpharetta, GA 30004 Fax: (888) 663-4464 EMAIL: sales@4ramdisk.com

December 10, 2004

2.5" IDE Flash Disk

Virtual Booth 1351 • Virtual Product 1785



- Capacity: up to 640MBStandard 2.5" hard disk form factor
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Serial ATA Storage

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SATA RAID Storage

Virtual Booth 188 • Virtual Product 499



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fs[ix] Titan II 250GB Server

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Intelligent FC-FC Storage Virtual Booth 3656 • Virtual Product 1218



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EMC²



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4 Terabyte SAN Bundle

Virtual Booth 374 • Virtual Product 1204



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Networked Storage Solution Virtual Booth 4124 • Virtual Product 2096



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Thin Client

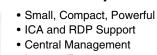
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Mini Computer Node Virtual Booth 1217 Virtual Product 1694



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Business Intelligence

Virtual Booth 4093 • Virtual Product 2056



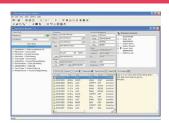
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The Accellion OneCopy™ immediately improves mail



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Web Performance Software

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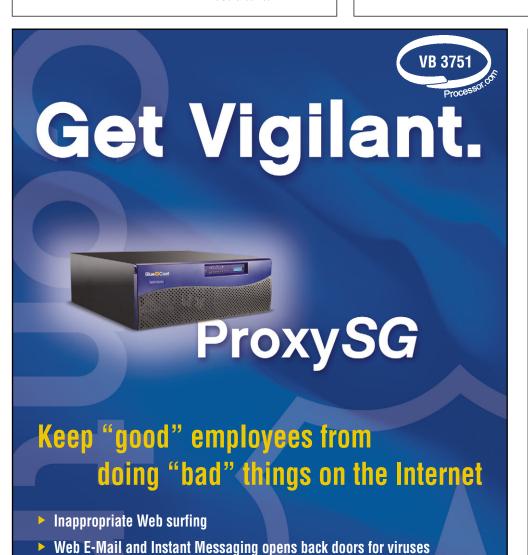
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Virtual Booth 3945 • Virtual Product 1839





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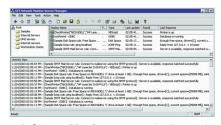


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Networking Management

Virtual Booth 4108 • Virtual Product 2079



The SolarWinds Engineer's Edition Version 7 is a suite of networking management software containing Network Discovery, Fault Monitoring, Performance Monitoring and Performance Management applications. This toolset contains the award-winning discover and fault management applications as well as security and Cisco Router management tools.



8221 E. 63rd Place Tulsa, OK 74133 Phone: (918) 307-8100 Fax: (918) 307-8080 WEB SITE: www.solarwinds.net

Enterprise Software

Virtual Booth 4083 • Virtual Product 2046

IPsonar 3.0® enterprise software consists of several interrelated discovery processes that find routes and routers, hosts, servers, wireless access points, unauthorized connections or hosts, and perimeter leaks.

Discovery Processes

- Network Discovery Server Discovery
- Leak Discovery
- · Wireless Discovery

IPsonar uses multiple entry points, or Sensors, within a network to form an "IPsonar Grid" sweeping the far corners of the network for anomalies. These entry points can be moved throughout your network - a portability providing the flexibility needed for managing enterprise networks that are continually being optimized or changing to meet new business mandates.



220 Davidson Avenue Phone: (732) 357-3500 WEB SITE: www.lumeta.com

Somerset, NJ 08873 Fax: (732) 564-0731 EMAIL: sales@Lumeta.com

Network Analyzer

Virtual Booth 3249 • Virtual Product 838



• Observer 10 - available

410 Park Avenue, 15th Floor New York, NY 10022-4407

Phone: (212) 319-4114

WEB SITE: www.adremsoft.com

Fax: (212) 832-4114

- Real-time packet capture and decode One solution for LAN,
- WAN, Gigabit, 802.11a/b/g Over 500 Expert Events
- 4GB packet capture buffer
- VLAN, VoIP and **Application Analysis**
- Supports SNMP, RMON1, RMON2 and HCRMON



8800 W. HWY 7 4th Floor Minneapolis, MN 55426 Phone: (800) 526-7919 Fax: (952) 932-9545 WEB: www.networkinstruments.com/pcom

Network Analysis Software Virtual Booth 3801 • Virtual Product 1580

NetVoyant is a family of software prod-NETVOYANT Ucts that provide network performance analysis and reporting solutions for the management of computer network infrastructure, critical servers, and applications. The system is scalable from the smallest enterprise to those with multiple locations or network operation centers where remote monitoring is required. NetVoyant automatically retrieves and compiles network statistics, performs analyses of those statistics, and provides graphical reports including baseline performance, bandwidth utilization, network volume, traffic, and trends. All solutions are available on Solaris, Linux, and Windows™ platforms.

NetVoyant lets you understand what is really happening on your network, from a LAN and WAN perspective, so that you can make informed decisions.



222 W. Colinas Blvd., Suite 1650 Irving, TX 75039 Phone: (972) 221-6500 Fax: (972) 221-6550 WEB SITE: www.redpt.com EMAIL: info@redpt.com

Network Analysis Solutions Virtual Booth 4011 • Virtual Product 1957

WildPackets' Omni³ is an advanced network fault analysis platform built from the ground up to increase network uptime and IT productivity.

Key Benefits

- Faster resolution of faults
- · Improved visibility into all parts of the network
- Increased uptime and network performance

Key Features OmniPeek Console for centralized monitoring and

- troubleshooting Distributed Omni³ engines for packet capture and
- analysis • Interfaces include 10/100, 802.11 wireless, full duplex
- Gigabit, and WAN

For your free eval, visit www.wildpackets.com/processor



1340 Treat Blvd Suite 500 Walnut Creek, CA 94597 Phone: (925) 937-3200 Fax: (925) 937-3211 WEB SITE: www.wildpackets.com EMAIL: info@wildpackets.com

Change Management/Audit Virtual Booth 3725 • Virtual Product 1426

FireMon is a firewall policy and device change management and auditing product

- Comprehensive Audit Functionality audit any Check Point policy or Cisco device configuration to ensure
- compliance with corporate or governmental expectations Side-by-Side Policy or Configuration Comparison easily track changes made to any rule base/configuration
- Policy Test based on source, destination and service, determine how traffic is handled at the firewall
- Complete Change Management archive and track all changes made across time and the enterprise ensuring expected and consistent behavior
- Performance Monitoring monitor the performance of any Nokia or Cisco device to ensure consistent behavior



1627 Main Street - 2nd Floor Kansas City, MO 64108 Phone: (816) 421-1904 Fax: (816) 421-1938 WEB SITE: www.firemon.com EMAIL: info@firemon.com

Firewall Analysis Software

Virtual Booth 3746 • Virtual Product 1474



Firewall Analysis, Reporting and Management

- Real-time event monitoring and policy-based alerting Collect, correlate and investigate firewalls, IDS, routers
- and antivirus servers' activity Identify attack source, type & destination details
- Find virus activity source, type & destination by protocol
- · Analyze event details by severity



31 Nagog Park, 3rd Floor Acton, MA 01720 Phone: (978) 266-9933 Fax: (978) 266-0004 WEB SITE: www.eiQnetworks.com EMAIL: info@eiQnetworks.con

Test Management

Virtual Booth 4082 • Virtual Product 2025



Develop your automated tests 4X faster with TestStand3.1 - National Instruments newly released version of awardwinning test management software. NI TestStand is a ready-to-run test management environment for automating your test and validation systems. NI TestStand is designed to maximize test-code reuse through built-in language adapters and simplify maintenance by using a modular fully customizable test-system framework.



11500 N Mopac Expwy Austin, TX 78759 Phone: (888) 280-7645 Fax: (512) 683-8411 WEB SITE: www.ni.com EMAIL: sales@ni.com

Terminal Server Mgmt.

Virtual Booth 4076 • Virtual Product 2036



triCerat provides software that simplifies the operation of the on-demand enterprise. The firm's Simplify applications overcome common, well-documented functionality gaps in the Terminal Server OS, giving customers a proactive mechanism for ensuring quality of service - this is Day Zero™ Protection. Licensed by over 2,500 organizations worldwide, the Simplify Suite creates significant ROI.



10320 Little Patuxent Pkwy., Ste. 304 Columbia, MD 21044 Toll Free: (800) 582-5167 Phone: (410) 715-3926 WEB SITE: www.tricerat.com EMAIL: info@tricerat.com

Terminal Server Performance

Virtual Booth 4094 • Virtual Product 2057



TScale provides improved application performance and reliability while increasing the capacity of your servers by up to 40% or more!

Get it all in a single, cost effective solution! TScale applies the appropriate combination of optimization techniques to prevent rogue applications from spiking the CPU for better user satisfaction, while reducing virtual memory for increased server capacity to reduce costs.

Key benefits include:

- Up to 40% or more users per server!
- Improved system and application response times!
- · No more freezes, hangs and sluggishness due to runaway and rogue applications!



5400 Laurel Springs Pkwy., Ste. 108 Suwanee, GA 30024 Phone: (678) 455-5506 Fax: (678) 455-5551 WEB SITE: www.rtosoft.com EMAIL: info@rtosoft.com

Application Development Virtual Booth 3887 • Virtual Product 1745



OpenInsight is The Application Developer's Toolkit

OpenInsight, Revelation Software's flagship product, is a repository-based applications development environment that enables development teams to work collaboratively to design, develop, deploy and scale high-performance business solutions on leading messaging and client/server platforms. Runs on both Windows and Linux.



99 Kinderkamack Road, First Floor Westwood, NJ 07675 Phone: (201) 594-1422 Fax: (201) 722-9815 WEB SITE: www.revelation.com EMAIL: info@revelation.com

Content Security Kit

Virtual Booth 3953 • Virtual Product 1912



Content Security Acceleration Development Kit

- Boost performance of existing Antivirus, Antispam and Content Filtering apps. - NO hardware expertise required.
- Includes 2xPCI Accelerator Cards fast pattern matching, decompression and bayesian classification.
- Includes SDK, API documents and programming guide.
- Includes sample Antivirus and Antispam applications.



1804 Embarcadero Rd. Ste. 200 Palo Alto, CA 94303 Phone: (650) 292-4636 Fax: (650) 618-2769 WEB SITE: www.sensorynetworks.com

Content Transformation

Virtual Booth 3926 • Virtual Product 1809

M-Business Anywhere provides a platform for delivering Web-based content and applications to mobile devices rapidly and cost-effectively - with minimal recoding. Web developers can leverage their existing skill sets and open standards to develop and deploy fully interactive Web applications with sync-and-go or wireless capabilities. So no matter where end users are, they'll be able to tap into the information, applications and Web services they need to make more effective business decisions, more quickly than ever before. Just as importantly, you can develop, deploy, and maintain mobile Web applications rapidly and with the lowest total cost of ownership (TCO) possible. M-Business Anywhere powers the AvantGo mobile Internet service, with more than 10 million registered subscribers.



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SCSI Reference Library

Virtual Booth 3820 • Virtual Product 1613

DEVELOPER to olbox

Over 175 functions allow you to easily work with disk drives, tape drives, libraries, and any other SCSI/FC/ATAPI/SATA peripherals! With more tests and

functions being added monthly, the Developer Toolbox is a solid and growing test development tool. In use at major manufacturers and integrators, the Developer Toolbox is the proven way to test peripheral storage devices FAST!



Phone: (303) 972-2072 WEB SITE: www.scsitoolbox.com

Littleton, CO 80162 Fax: (480) 802-1217 EMAIL: sales@scsitoolbox.com

Test Automation

Virtual Booth 4098 • Virtual Product 2062



AdventNet QEngine is an extensive, platform independent Test Automation tool used for Web, functional, acceptance, performance, API and regression testing. Supports testing of applications developed using HTML, JSP, PHP, XML, SOAP, WSDL, e-commerce, traditional client/server etc. Tool is developed using Java which facilitates portability and multiple platform support Windows, Linux, and Solaris.



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Application Mgmt Suite Virtual Booth 4141 • Virtual Product 2114

Say goodbye to tension headaches, achy back muscles, and the pains that appear each time application issues occur. With DataVelocity you can experience: *The comfort of error free application rollouts *The ease of bug free code *The joy of a monitored, stable IT environment *And the peace of quiet phones after an application upgrade. DataVelocity are database specialists and tension easers. We protect database environments from unforeseen disasters including data corruption, application failures and more. Our purpose is to prevent your environment from suffering any outages, protect the business from any down time and provide you with time to relax and breathe.

Contact us now to qualify for free trial & complimentary gift!



897 McBride Avenue West Patterson, NJ 07424 Phone: (973) 812-0343 Fax: (973) 338-2201 WEB SITE: www.data-velocity.com EMAIL: info@data-velocity.com

XML Conversion

Virtual Booth 4101 • Virtual Product 2071



W2XML will convert *.doc, *.rtf, *.asp, *.htm, *.html and *.jsp to well-formed XML. The software can also apply eXtensible Style Language Transformations (XSLTs) to the standard output so that you can match virtually any Schema's tag set. New Features Available in Version 2.3 are group field content, remove space before punctuation, User Mode and eXSLT library.



120 East Sheridan Ave., Suite 202 Oklahoma City, OK 73104 Phone: (405) 236-2466 Fax: (405) 235-2250 WEB SITE: www.docsoft.com EMAIL: sales@docsoft.com

Wireless Access To CRM

Virtual Booth 3958 • Virtual Product 1873



Air2Web's 2CRM is a set of mobile solutions enabling secure, wireless access to critical data from companies' FFA, Call Center, and SFA applications, including Siebel. From a wireless device, employees are able to securely access, work with, and respond to enterprise data whenever and wherever they



1230 Peachtree St. NE. 12th Floor Atlanta, GA 30309 Phone: (404) 942-5300 Fax: (404) 815-7708 WEB SITE: www.air2web.com EMAIL: info@air2web.com

Packaged Speech Application Virtual Booth 4068 • Virtual Product 2027

Voice-Enabled CRM

Voice Automation introduces voice-enabled CRM, an out-of-the-box packaged speech application. This simple-to-use mobility solution for the phone requires no custom setup or training. At any time, and from any place, users can quickly and securely call in to the CRM. Using a set of simple voice commands, users can read and write up-to-the-minute enterprise data, including email, appointments, contacts, quotes, and much more. While traveling or whenever the Internet is unavailable, Voice Automation is the always-available productivity solution that keeps remote workers in touch.



238 Littleton Road Westford, MA 01866 Phone: (866) 781-8642 Fax: (978) 392-8679 WEB SITE: www.voiceautomation.com

Wireless Access To Email

Virtual Booth 3958 • Virtual Product 1872



Air2Web's 2Mail solution enables wireless access to Microsoft Exchange, Lotus Domino, POP3 and IMAP based email software. With 2Mail, businesses have a single solution for offering wireless email to a variety of mobile devices, including RIM, Palm, Pocket PC, WAP, SMS & J2ME handsets. 2Mail features access to email, calendars, contact info & attachments, in addition to the ability to securely authenticate devices & users.



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Remote Enterprise Mgmt.

Virtual Booth 3955 • Virtual Product 1863



Tool Categories

Exchange Servers Server States Queues Logged On Users Mailboxes Public Folders Computer Tools

Infrastructure Command and Control (IC2) is a remote enterprise management solution that enables IT professionals to securely manage all network elements remotely using a handheld device or a Web browser. With IC2's unique shortcuts feature, complex IT tasks can be simplified into one-click operations and executed from anywhere.



2300 Corporate Park Dr., Ste. 410 Herndon, VA 20171 Phone: (571) 203-8300 Fax: (571) 203-8310 WEB SITE: www.ecutel.com EMAIL: info@ecutel.com

December 10, 2004

iSeries Software

Virtual Booth 4109 • Virtual Product 2080

Software comes in many flavors on the iSeries, from the operating system, to middleware, to industry solutions. Of course, no discussion of software can begin unless you understand the basics about this very unique operating system, OS/400. Designed as a single entity, it offers built-in facilities such as our DB2-based relational database, communications and networking capabilities, online help and much more. On iSeries, the user/operator communicates with all the components of the operating system using either an intuitive graphical user interface or a standard digital presentation. Information on i5/OS $^{\!\scriptscriptstyle\mathsf{TM}}\!,$ the next generation of OS/400 operating system, is available now.



4720 Kirkwood Highway Wilmington, DE 19808 Phone: (800) 787-7092 Fax: (302) 225-7505 WEB SITE: www.CQAInc.com

Enterprise Security Software Virtual Booth 3826 • Virtual Product 1621



ENDFORCE Enterprise software enables enterprises to ensure users' workstations are compliant with current security policy, before granting network access. The software enforces policy for operating system patch level, best-of-breed personal firewalls and antivirus applications, and is extensible to include other emerging security products.



565 Metro Place South, Suite 300 Phone: (866) 777-2537

Dublin, OH 43017 Fax: (614) 923-6299 FMAIL: sales@endforce.com

Endpoint Security Solution

Virtual Booth 3940 • Virtual Product 1834

Safe Access™ ensures that endpoint devices accessing the network are free from security threats and in compliance with the organization's standards. Safe Access systematically tests endpoint devices - without the use of a client or agent - for compliance with organizational security policies, quarantining non-compliant machines before they damage the network. Safe Access ensures that the applications and services running on endpoint devices are upto-date and free of worms, viruses, trojans, P2P and other potentially damaging software. It dramatically reduces the cost and effort of securing those devices - devices accessing the network through VPN or dial-up, devices logging onto the network directly, and devices connecting through wireless networks - devices your IT group may not have adequate control over.

StillSecure

361 Centennial Pkwy. Suite 270 Louisville, CO 80027 Phone: (303) 381-3800 Fax: (303) 381-3881 WEB SITE: www.stillsecure.com EMAIL: sales@stillsecure.com

Mobility Identity Enforcement

Virtual Booth 3966 • Virtual Product 1822

Synctomi Virtual Network Segmentation™—VNS™

Synctomi appliances combine identity-based access control, integrated worm and other threat protection with wire speed performance. By uniquely combining packet filtering and directory communications, which is integrated with a network's existing authentication method, the VNS appliance creates a unique, self-contained communication between each user and the network. Not only are resources and ports exposed on a need to know basis dynamically, the device increases security by eliminating any view of all other resources in the network topology.



One Secure Place Phone: (814) 438-8200 WEB SITE: www.synctomi.com

Union City, PA 16438 Fax: (814) 438-8203 EMAIL: sales@synctomi.com

User ID Mgmt Solution

Virtual Booth 3968 • Virtual Product 1884

AccountCourier®, Courion's automated account provisioning and user ID management solution, enables authorized individuals to instantly grant, revoke, or modify account access on any operating system, application, or Web portal without manual intervention.

AccountCourier provides:

- Clear and measurable benefits for your company's IT department, HR managers, business managers, employees, business partners, and customers.
- · Best-in-class account provisioning features for maximum security, efficiency, productivity, cost-savings, and ROI.
- · Flexible technology that integrates with and leverages your existing identity stores, service desk applications, messaging systems, and IT systems.



1881 Worchester Road Framingham, MA 01701 Phone: (866) 268-7466 Fax: (508) 879-8500 WEB SITE: www.courion.com

Password Management

Virtual Booth 4092 • Virtual Product 2054

Single Sign On, Flexible Password Management

SSO Plus is an easy-to-use, flexible password management product. It provides the user with the ability to access all applications on their desktop using a single user ID and password. After the user has logged onto their PC, they can access password-protected applications on their desktop without the need to enter any further credentials. SSO Plus learns the logon credentials of each application started on the user's desktop. When the application is next started, SSO Plus will automatically enter the required logon credentials. There is no need for users to write down the logon credentials for each application; no need for password synchronization, and it encourages the use of strong passwords. PassGo also has a free version of SSO Plus available for non-commercial use -- www.ssoplus.com



651 Holiday Drive - Suite 300 Pittsburgh, PA 15220 Phone: (888) 652-3983

WEB SITE: www.passgo.com

Password Management Tool Virtual Booth 4115 • Virtual Product 2088

RoboForm 6.0

Imagine an online world where you no longer have to remember various usernames & passwords for the dozens of sites that you visit. The new RoboForm 6.0 password management & form filling tool memorizes online passwords, automatically logs users onto Web sites, generates random secure passwords and fills out long registration forms with one click. This latest version allows users to take their "identity" - password details wherever they travel on a USB key, along with a PDA



11781 Lee Jackson Hwy, Suite 260 Phone: (877) 762-6367 WEB SITE: www.siber.com

Fairfax, VA 22033 Fax: (703) 716-4812 EMAIL: ask@siber.com

Access Management Software Virtual Booth 3763 • Virtual Product 1529

Entegrity AssureAccess

AssureAccess allows Web and J2EE application developers deploying secure e-business solutions to easily include authentication, single sign-on, authorization, audit, user management and security policy administration in their applications without building custom security code for each application.

Through AssureAccess, organizations can quickly deploy and update their security resulting in:

- More reliable security implementations
- · Shorter and more predictable deployment schedules
- Lower overall application development costs



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Certificate Authority

Virtual Booth 3828 • Virtual Product 1624

Issue Universally Trusted SSL Certificates OmniRoot is the exclusive public root certificate

predistributed in 99% of the world's Web browsers as well as a wide range of IT platforms and other devices such as mobile phones.

By chaining your identity and trust infrastructure to OmniRoot, you can guarantee that the digital certificates you issue will be automatically recognized and accepted by your end-users' browsers since they both link to a common trust point.

Betrusted offers both prepackaged and custom tailored SSL certificate solutions that incorporate OmniRoot - So whether you need to secure one server or multiple servers there's a service for you.



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FINALLY A WAY TO DETECT, ISOLATE, AND ELIMINATE VIRUSES AND WORMS AT THE NETWORK LAYER.



Introducing the industry's first outbreak prevention appliance -- only from Trend Micro.

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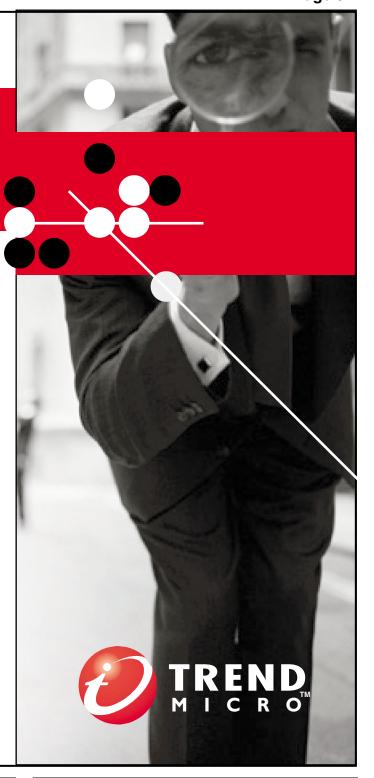








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Web Authentication

Virtual Booth 3944 • Virtual Product 1838

Entrust TruePass"



You can't choose your users; however, you can choose their method of authentication. Entrust TruePass delivers strong authentication for the Web that is easy to use increasing security and reducing help-desk calls to a minimum. It is easy to deploy and allows users maximum mobility to access sensitive applications from any location through only a Web browser.



1000 Innovation Drive Ottawa, ON K2K 3E7 Canada Phone: (888) 690-2424 Fax: (613) 270-2501 WEB SITE: www.entrust.com/truepass/pro

Fingerprint Logon Software Virtual Booth 3866 • Virtual Product 1702



Security. Mobility. ROI. Coming to an operating system near you. The Identix BioLogon® Software Suite offers the complete solution for all your desktop and network fingerprint authentication needs. A complete multifactor authentication solution, BioLogon provides fingerprint and password support. The result: increased security, lower administrative costs, and added convenience.



5600 Rowland Road Minnetonka, MN 55343 Phone: (952) 932-0888 Fax: (952) 932-7181 WEB SITE: www.identix.com

Secure Authentication

Virtual Booth 3833 • Virtual Product 1629



Datakey Axis is a software and Smart Card solution that delivers simplified & secure authentication for a full range of enterprise applications & network resources. It provides a definitive answer for those enterprises that are struggling with password-based authentication environments. Datakey Axis takes the user out of the security loop so organizations regain control of authentication.



407 West Travelers Trail Burnsville, MN 55337 Phone: (888) 328-2539 Fax: (952) 890-2726 WEB SITE: www.datakey.com

Remote Access Authentication

Virtual Booth 3651 • Virtual Product 1206

COBAS REMOTE ACCESS™ (VPN)

COBAS is the most secure and versatile authentication software in the world. The platform can work with any operating system, biometric or Smart Card Reader and allows you to store templates in a Centralized Database, localized hard drive, or Smart Card. Imagine entering your "username only" and hitting the login button and two seconds later wherever you're at the phone rings and performs a dual factor, tri-factor or multiperson authentication without having to run any client side software on that computer, laptop or PDA. The reason this method is so secure is because we split the pathway between the username and password, never sending pass-words or credentials over an IP-based network.



1090 King George's Post Road Phone: (866) 787-4542 WEB SITE: www.sftnj.com

Edison, NJ 08837 EMAIL: info@sftnj.com

Optical Fingerprint Reader Virtual Booth 3866 • Virtual Product 1701



The BioTouch® PC Card provides a fully functional optical fingerprint reader inside a single Type II PC Card.

- Encryption option secures fingerprint image transmission between the reader and a computer
- Advanced CMOS camera technology delivers high image quality and reliability
- PCMCIA interface supports plug and play operation



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Triple Factor Authentication Virtual Booth 3516 • Virtual Product 1919

Biometric PKI Network Enterprise Solution With the $\mathbf{BioStik^{TM}}$, Index Security Inc. and partner

SecureMethods provide a Bio-PKI Network Solution offering "Triple Factor Authentication"; a legally binding digital signature with a Transaction-based Audit Trail. Our Bio-PKI solution is the highest level of data security today, DoD grade, An embedded PKI appliance mechanism grants your users access biometrically, with a digitally signed and encrypted remote access to your servers especially via the Web, at the same time it leaves a complete audit trail of transactions of file accesses, including who, what, when, where, and how they did it rather than by normal session base. This solution seamlessly provides the highest level of security, for multiple application servers without the need for modification and is at a reasonable cost, without client licensing charges.



500 Parker Avenue, Suite G Deal, NJ 07723-1435 Phone: (732) 531-9209 Fax: (732) 531-2307 WEB SITE: www.index-security.com EMAIL: info@index-security.com

PC & Data Protection

Virtual Booth 3938 • Virtual Product 1829



Ritech BioSlimDisk iCool

- First ever portable security device with fingerprint enabled swipe sensor
- Truly driverless device enforcing "Secure Data Mobility"
- Built-in enrollment and authentication engine
- Windows logon and
- encryption capabilities Capable of password synchronization
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SmartCard Security Software

Virtual Booth 3580 • Virtual Product 1162



Access Control, Privacy and Convenience

- Strong Anti-Hacking Protection
- File Protection through Encryption
- Password Vault for Web sites
- Smart Card-based Digital Certificates

http://sales.360degreeweb.com/pcom0402

www.360degreeweb.com

2700 Augustine Drive, Suite 175 Santa Clara, CA 95054 Phone: (408) 727-8288 Fax: (408) 727-8278 WEB SITE: www.360degreeweb.com EMAIL: sales@360degreeweb.com

Database Auditing Software

Virtual Booth 4027 • Virtual Product 1966

WizRule® automatically reveals all the rules governing the data and points out cases that deviate from the discovered rules as suspected errors. The rules can be if-then statements, mathematical formulas or spelling regularities. WizRule detects symptoms of fraud in the data, exposes suspicious exceptions and discovers relations among data fields.

Features and Benefits

- · Reports the rules, and the cases deviating from the norm.
- Displays the contents of the deviated cases.
- Reveals and lists spelling errors in names and values · Reads dbf, MS Access, MS SQL, Oracle, ASCII files and any ODBC compliant database
- Easy-to-use interface based on Windows 9x / NT / 2000 / XP.



6800 Jericho Tpke., Suite 120W Syosset, NY 11791 Phone: (516) 393-5841 Fax: (516) 393-5842 WEB SITE: www.wizsoft.com EMAIL: sales@wizsoft.com

Database Security

Virtual Booth 4077 • Virtual Product 2037



Audit Suite provides a powerful, non-intrusive, data-security solution for corporate databases with a 24x7x365 audit-trail of all SQL requests. This ensures accountability and deters eaves-

dropping by trusted insiders.

- Detailed knowledge of who did what & when
- · Instant regulatory compliance with SOX, HIPAA
- · Security policies, real-time policy driven alerts
- · Automatic archiving, activity summaries
- No impact on databases or applications
- · Comprehensive database and platform support
- Comprehensive metrics including SQL query • Comprehensive server, display & search filters
- Data analysis, correlation and custom reporting



470 Park Ave. South, 10th Floor New York, NY 10016 Phone: (212) 696-0776 Fax: (914) 992-9468 WEB SITE: www.incachetech.com

Web Server Anonymization

Virtual Booth 4151 • Virtual Product 2126



ServerMask modifies your Web server's "fingerprint" by removing unnecessary HTTP response data, modifying cookie values, and adjusting other response information to obscure the identity of your server. Successful obfuscation can confuse hackers, making it more likely they try the wrong exploits first -- and are more easily identified by a firewall or intrusion detection system.



5252 Balboa Ave. Ste 707 San Diego, CA 92117 Phone: (858) 268-7960 Fax: (858) 268-7760 WEB SITE: www.port80software.com

Firewall Software

Virtual Booth 3636 • Virtual Product 1188



GB-Ware - Firewall Software

- Install on User-Configured Hardware
- 10 User and Unrestricted User Versions
- IKE VPN and 1 Mobile VPN Client License included
- Powered by GNAT Box System Software
- Certified by ISCA to meet 4.0 Corporate Standards



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Security Linux

Virtual Booth 3726 • Virtual Product 1427



Award-Winning Security Solution

Astaro Security Linux provides six essential applications in a single, easy-to manage package. It eliminates the need for multiple security products, which saves time & money. It includes firewall, VPN, antivirus, URL filtering, spam filtering, intrusion protection, remote access, application proxies, usage reporting and much more.



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Network Security Platform

Virtual Booth 3699 • Virtual Product 1285

Are your networks and routers easy prey?

Defend against perimeter intruders with one solution. • DeepNines is the front line of defense in the battle

outside the network infrastructure.

- against cyberattacks. DeepNines Security Platform integrates intelligent firewall, intrusion prevention, best-in-class antivirus functionality, spam filtering and forensic capture and reporting into a security software platform that operates
- The Sleuth9® Security System, which runs on the DeepNines Security Platform, sits invisibly at the perimeter of the network, exposing no MAC or IP address so it cannot be scanned or hacked, protecting the router and other critical network devices from attack.



14643 Dallas Parkway - Suite 150 Dallas, TX 75254 Phone: (214) 273-6996 Fax: (214) 273-6997 WEB SITE: www.deepnines.com

Secure Instant WAN

Virtual Booth 3971 • Virtual Product 1888



The Inter-Business Vault™ enables the creation of secure instant wide area networks (WANs) for connecting enterprises with partners, customers and sub-contractors over the Internet enabling them to exchange information as if they have deployed a shared WAN, but without actually doing so. Cyber-Ark's leading Vaulting applications include Treasury Management Vault, CAD/CAM Vault, and Source Code Vault.



270 Bridge Street, Suite 203 Phone: (781) 251-0670 WEB SITE: www.cvber-ark.com

Dedham, MA 02026 Fax: (781) 251-0678 EMAIL:sales@cyber-ark.com

SSL VPN Solution

Virtual Booth 3694 • Virtual Product 1274

Netsilica EPN delivers scalable, secure deployments that fit your network & your remote access needs. Granular, application-level controls for every user that integrate with any authentication/authorization system (I&AM) for a complete enterprise solution.

- Complete Application-Aware Firewall Customizable Application-Level Security
- · EPN goes beyond simplified remote access Delivering total access and security solutions
- Comprehensive Secure Remote Access Browser-based Access to any Application
- Multiple Deployment Options Software - Appliance - Managed Service



377 Hoes Lane, Suite 260 Phone: (732) 465-1400 WEB SITE: www.netsilica.com

Piscataway, NJ 08854 Fax: (732) 465-1409 EMAIL: info@netsilica.com

SSL VPN for Windows

Virtual Booth 4078 • Virtual Product 2040

OvisGate is browser-based Secure Sockets Layer (SSL) VPN software solution for Windows and can run on any Windows 2000 and XP computer. It builds a Virtual Private Network on the Internet in minutes and no client hardware or software needs to be installed. With OvisGate SSL VPN software installed, users can access a corporate intranet from anywhere, anytime and access it securely.

OvisGate is the perfect solution for small businesses that need to provide confidential information to remote users, to multi-locations, to employees on the road, or to business partners or customers in need of accessing the corporate intranet. The time and energy saved by using OvisGate makes it the more financially safe and least problematic solution to your corporate access needs and it has the lowest cost among VPN solutions in the market.



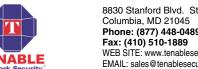
1301 John Reed Court City of Industry, CA 91745 Phone: (626) 854-1805 Fax: (626) 854-0835 WEB SITE: www.ovisgate.com EMAIL: sales@ovisgate.com

Security Management Virtual Booth 3724 • Virtual Product 1425

Lightning 2.5



- Manages vulnerabilities and IDS events for small and large organizations Schedules vulnerability
- scans with one or more Nessus scanners Share security information with hundreds ofadmini-
- strators Support IDS events from Snort, ISS, IntruSheild,
- Dragon and many others Performs real-time vulnerability and IDS correlation





8830 Stanford Blvd. Ste. 312 Columbia, MD 21045 Phone: (877) 448-0489 WEB SITE: www.tenablesecurity.com EMAIL: sales@tenablesecurity.com

Event Monitor

Virtual Booth 3669 • Virtual Product 1247



PageR Enterprise is the automatic server, device and event monitor that watches anything across your network to immediately notify the IT staff when important events occur. PageR runs on Windows NT/2000/XP to monitor servers, logfiles, services, TCP/IP, SNMP, disks, programs, Web pages/links, devices, bandwidth, power and more. When events occur, alerts are sent to phones, pagers, PDAs, etc.



221 Third Street Tower Newport, RI 02840 Phone: (888) 220-6700 Fax: (401) 847-6701 WEB SITE: www.avtech.com EMAIL: sales@avtech.com

Real-Time Event Correlation

Virtual Booth 3994 • Virtual Product 1940



NetMonSecure™

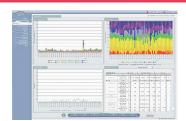
- Full-featured SIM at an affordable price
- Network & Security Event Management
- Real-time threat correlation
- Automated real-time drilldown forensic analysis
- without programming Easy to install and use
- ROI almost immediate -
- get results on the first day Rules based security
- policies Notifications & Active Responses



3000 Hadley Rd., 1st Floor South Plainfield, NJ 07080 Phone: (908) 755-8111 Fax: (908) 222-7929 WEB SITE: www.netmon2.com EMAIL: info@netmon2.com

Network Activity Analyzer

Virtual Booth 4064 • Virtual Product 2019



StealthWatch + Therminator

Lancope's StealthWatch+Therminator is the thermodynamic, behavior-based threat detection and network intelligence solution for real-time visualization of network traffic and patternless detection of known/unknown attacks.

Lancope

3650 Brookside Parkway, Suite 400 Alpharetta, GA 30022 Phone: (770) 225-6500 Fax: (770) 225-6501 WEB SITE: www.lancope.com

EMAIL: info@lancope.com

Enterprise Log Analysis

Virtual Booth 3724 • Virtual Product 1429

Thunder 1.0



- · Log aggregation for multiple organizations and tech-
- Application analysis of Secure Shell, Apache, Sendmail and many others
- Firewall analysis of Checkpoint, PIX, NetScreen and many more
- Support for common routers, operating systems and even sniffers
- Works with the Lightning Console
- Easy to install, configure and operate



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System Event Log Analysis

Virtual Booth 3746 • Virtual Product 1485



Centralized Windows, UNIX and Linux **System Event Log Analysis**

- · Agentless centralized analysis and reporting
- Compliance reporting--HIPAA, GLBA, Sarbanes-Oxley · Host grouping for event prioritization and reporting
- · Real-time alerting and automatic notification
- Centralized event manager and reporting portal



31 Nagog Park, 3rd Floor Acton, MA 01720 Phone: (978) 266-9933 Fax: (978) 266-0004 WEB SITE: www.eiQnetworks.com EMAIL: info@eiQnetworks.com

Server Status Monitor

Virtual Booth 3934 • Virtual Product 1821



Prevent downtime and intrusions. ServerVision allows you to keep an eye on your servers and keep

them secure at the same time. Getting started is a breeze with straightforward wizards and both an MMC snap-in and Web-based interface. Powerful server and event log monitoring that's EASY to configure, EASY to run and EASY on your budget.

- · Automated responses and alerts
- Event log notification
- Security risk profile checking
- · Detailed analysis reporting
- Performance monitoring • 30-day product evaluation



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Event Log Monitoring

Virtual Booth 4114 • Virtual Product 2087





Meet security, auditing & compliance requirements for SOX, GLBA, HIPAA and other regulations with RippleTech's LogCaster. Try a free 30-day evaluation and let our experts quide you through the install and 'best practice' configurations to ensure the results that you require.

Visit www.rippletech.com or call today!



1100 Hector Street - Suite 388 Conshohocken, PA 19428 Phone: (610) 862-4000 Fax: (610) 862-4011 WEB SITE: www.rippletech.com

Fraud Screening Solution

Virtual Booth 4016 • Virtual Product 1958

When it comes to screening for fraud.... who can you trust?

If your company conducts a high volume of customer transactions and you're looking for ways to minimize fraud and bad debt, Lightbridge is the name you can trust. We've screened hundreds of millions of customer applications since 1989, helping our clients avoid billions of dollars in fraud. Lightbridge fraud screening tools are part of the most comprehensive suite of automated fraud and risk management solutions available. Our automated processes determine the validity and risk profile of each new applicant before they become a customer. Lightbridge and integrated third party products deliver proven results for:

- Database Screening
- Fraud Scoring
- Validation

Verification



30 Corporate Drive Burlington, MA 01803 Phone: (781) 359-4000 Fax: (781) 359-4500 WEB SITE: www.lightbridge.com

Computer Forensics SW Virtual Booth 3880 • Virtual Product 1724

Prodiscever*

Applications

- Internal Investigations
- Incident Responses
- Disk Forensics



Features

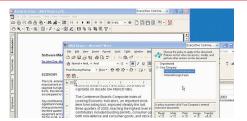
- Examines live systems in your network
- Finds Trojans and rootkits that hide in your system
- Generates evidence quality results and creates reports Searches for keywords or
- phrases Securely wipes entire disk drive



703 First Street Coronado, CA 92118 Phone: (888) 894-5500 Fax: (619) 435-0465 WEB SITE: www.techpathways.com

Intellectual Property Security

Virtual Booth 3868 • Virtual Product 1703



Liquid Machines is the only Enterprise Rights Management software solution that provides unprecedented protection by securing information at the source of any application. Liquid Machines encrypts digital information with persistent access and usage policies that remain with data regardless of where it goes. It allows you to share information inside and outside the enterprise while retaining control.



10 Maguire Road - Suite 110 Lexington, MA 02421 Phone: (781) 861-1497 Fax: (781) 861-0374 WEB SITE: www.liquidmachines.com EMAIL: info@liquidmachines.

Network Security Software Virtual Booth 3975 • Virtual Product 1906



Enforcer/EI software agents monitor networked computers and send notifications when corporate policy is violated. Enforcer/EI uses revolutionary parallel processing architecture that provides unsurpassed enterprise security management.

- Enforces security policy
- Operational notifications sent 24/7/365
- Assures privacy
- Platform independent Small footprint
- Nominal network traffic Exception based
- Minimal administration



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San Diego, CA 92127 Fax: (858) 271-0218 EMAIL: info@paragentec.com

Vulnerabiltiy Management Virtual Booth 4017 • Virtual Product 1959

SecurityExpressions

Audit and Compliance

SecurityExpressions enables you to audit and remediate desktops and servers for operating system configuration settings, application configuration settings, unauthorized hardware/software, industry-known vulnerabilities, software patches and other advanced settings, such as system utilization and user account activity. The solution can audit against home grown or customized best practices system security policies such as those published by Microsoft, IBM, SANS, and NIST. SecurityExpressions offers both an agent-based and an agentless approach to system audit and compliance, meeting the needs of any environment.



199 Wells Avenue Newton Center, MA 02459 Phone: (888) 664-7174 Fax: (617) 928-5552 WEB SITE: www.pedestal.com EMAIL: sales@pedestal.com

Policy Compliance

Virtual Booth 4075 • Virtual Product 2035



Compliance Management solutions from BindView help organizations satisfy IT security requirements for regulations including Sarbanes-Oxley, HIPAA, GLBA and Basel II. With BindView, customers are in control of their security policies and procedures, with capabilities to help ensure successful IT audits and compliance.



5151 San Felipe, Suite 2500 Houston, TX 77056 Phone: (713) 561-4000 Fax: (713) 561-4204 WEB SITE: www.bindview.com EMAIL: info@bindview.com

Enterprise Security Mgmt.

Virtual Booth ???? • Virtual Product ????

Allegent Technology Group dramatically improves and sustains enterprise security by providing integrated threat management software that automatically detects and responds to vulnerabilities before they result in breaches and outages.

SolventView™, employed to protect networks at the 2004 Summer Olympics, is the industry's leading Integrated Security Management Platform (ISM). Through an open distributed architecture, SolventView™ integrates and evaluates data from all relevant network assets to proactively protect networks in real-time. SolventView™ integrates seamlessly with legacy systems and third-party products, and includes and centrally manages all security functions, such as VA, IDS, Policies, Rules, Asset Discovery, Forensics, and Compliance Enforcement.



100 Crossways Park Dr. W. #104 Woodbury, NY 11797 Phone: (516) 364-7034 Fax: (516) 364-7036 WEB SITE: www.allegent.net

Internet Usage Filter

Virtual Booth 3782 • Virtual Product 1545



This state-of-the-art Internet filter has capabilities to protect you, your organization and your employees. It comes with everything you need to effectively manage, filter and report on your organization's Internet usage and it can be easily installed in almost any network topology. Comprehensive reporting and the industry's largest database help ensure that your Internet resources are being used appropriately.



12012 Wickchester Ln., Ste. 600 Houston, TX 77079 Phone: (800) 989-8908 Fax: (281) 496-1090 WEB SITE: www.dciseries.com EMAIL: info@futuresoft.com

Web Filtering Solution

Virtual Booth 3947 • Virtual Product 1853



SurfControl Web Filter provides tools needed to understand and manage Internet usage in a way that best suits your business needs. For maximum protection from the threats of harmful and inappropriate Internet content, SurfControl Web Filter incorporates: quality content understanding, Adaptive Reasoning Technology, flexible deployment options, ease-of-use and comprehensive reporting and analysis.



100 Enterprise Way, Ste A110 Scotts Valley, CA 95066 Phone: (831) 440-2500 Fax: (831) 440-2740 WEB SITE: www.surfcontrol.com

Web Filtering and Security Virtual Booth 4143 • Virtual Product 2118

Websense, Inc. enables organizations to manage employee Internet use through multilayered Web filtering and security solutions. This employee-centric approach protects organizations from new and emerging threats such as spyware, phishing and malicious mobile code, and complements traditional security solutions. Websense award-winning and industryleading filtering solutions help organizations manage how employees use the Web.

- Manage employee Internet access
- Mitigate exposure to zero-day security threats
- Prevent spyware and malicious mobilecode
- · Block peer-to-peer (P2P) file sharing



10240 Sorrento Valley Rd. Phone: (800) 723-1166

San Diego, CA 92121 Fax: (858) 458-2950

Endpoint Security

Virtual Booth 4091 • Virtual Product 2053



Fireball Enterprise is state-of-the-art endpoint security software for desktop & mobile computers. The first & only centrally managed, integrated solution that combines the layered protection of a personal firewall, intrusion detection system, privacy controls, system assessment, Web/ application recording, spyware & an IPSec VPN. Controls all levels of network traffic and communications.



42808 Christy Street, Suite 108 Phone: (510) 498-4100

Fremont, CA 94538 Fax: (510) 498-4390

LapTrak

Virtual Booth 3686 • Virtual Product 1253



If your computer is missing, we can find it...

LapTrak is a virtually undetectable and silent safeguard software program that enables the LapTrak "IQ Certified" alarm monitoring station to track the location of a laptop or desktop computer 24 hours per day, 365 days per year.



18 Maple Court East Longmeadow, MA 01028 Phone: (800) 451-7592 Fax: (413) 525-8807 WEB SITE: www.secure-it.com

Mobile Security Management Virtual Booth 3785 • Virtual Product 1550

Advanced, Policy-Enforced Client Security Protection Next-generation operating system kernel-layer security

- technology ensuring a much higher level of security than first-generation personal firewalls
- Advanced WLAN control (up to and including complete radio silencing) that allows you to manage every phase of your wireless deployment
- Highly scalable security policy distribution keeping thousands of enterprise users on both sides of the corporate firewall regularly and securely updated
- · Location-based controls adapting security permissions by network location for users moving across different networks and encountering different risks
- WLAN connectivity under centralized IT management & control in compliance w/corporate security policy guidelines
- · Protects mobile endpoints at the network adapter



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Portable Storage Control

Virtual Booth 3805 • Virtual Product 1995



GFI LANguard Portable Storage Control offers you network-wide control of which users can plug in a USB stick; connect a smartphone, MP3 player, handheld; download / upload data to a digital camera; access CDs; access floppies. All user management is done through Active Directory eliminating extra administration. Starting from only \$295 for 25 PCs. Download your eval today: www.gfi.com/psp



Spyware

Adware

Keyloggers

15300 Weston Parkway, Suite 104 Cary, NC 27513 Phone: (888) 243-4329 Fax: (919) 388-5621 WEB SITE: www.gfi.com

Computer Theft Recovery Virtual Booth 3917 • Virtual Product 1789

PCPhoneHome/MacPhoneHome Enterprise™

- The only computer tracking and theft recovery software in the world capable of large-scale network deployment to a large number of computers using different operating systems simultaneously.
- Can be installed using a variety of popular "network push" techniques or disk imaging utilities.
- Installation is completely transparent
- Your organization's contact and ownership information is hardcoded directly within your custom Enterprise
- Once notified of a theft, recovery agents at Brigadoon Software's worldwide monitoring and command center provide full technical, tracking and recovery support to the customer and local police.

Brigadoon Software:

Phone: (845) 624-0909 WEB SITE: www.brigadoonsoftware.com

Nanuet, NY 10954 Fax: (845) 624-0990 EMAIL:sales@brigadoonsoftware.com

Laptop Security Software

Virtual Booth 4018 • Virtual Product 1960



zTRACE GOLD is a stealth tracing and recovery application that remains udetectable & unerasable on your laptop's hard drive. If the laptop is reported stolen, the computer reports its own location the next time it is connected to the Internet! That Information is immediately forwarded to the zTrace Recovery Team, who works in conjunction with local law officials to recover your laptop.



411 Waverly Oaks Road, Ste. 328 Waltham, MA 02452 Phone: (877) 987-2232 Fax: (877) 966-2200 WEB SITE: www.zTrace.com EMAIL: sales@zTrace.com

Anti-Spyware Solution Virtual Booth 3853 • Virtual Product 1652



Buffer Overflows IE Exploits Outlook Exploits

Hack in Progress Routed Attack Port Scan

PestPatrol Corporate Edition v5

PestPatrol Corporate Edition, the leading network anti-spyware solution, has been redesigned from the ground up to capitalize on our existing strengths in detection and removal. The new version will use fewer resources while providing substantially faster scanning and greater scalability and manageability.



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WHAT'S IN THE BOX?

Everything.

Black Box is your one source for data and voice products and services—and we back them up with the industry's best Tech Support. We specialize in design, installation, and maintenance of wired, wireless, and hybrid networks worldwide.

Find more than 90,000 connectivity solutions in the BLACK BOX® Catalog and on blackbox.com. When you need help deciding what's best for your network, our FREE 24/7/365 hotline Tech Support answers your call in 20 seconds or less, even at 2:00 A.M.

As the world's largest infrastructure provider, Black Box designs and installs data and voice systems—and performs MAC work and ongoing maintenance to keep networks connected.

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Antispam

Virtual Booth 3698 • Virtual Product 1284



PRCESS

PreciseMail Anti-Spam Gateway

- "Get Precisely the Email You Want"
- · Eliminates spam at the Internet gateway or mail server without filtering critical legitimate email messages
- Mulitple antispam filtering technologies are used for high
- Web interface for user spam management



959 Concord Street Phone: (800) 722-7770 WEB SITE: www.process.com Framingham, MA 01701 Fax: (508) 879-0042

Antispam For Exchange

Virtual Booth 3934 • Virtual Product 1822



iHateSpam for Exchange™ installs quickly and easily on Exchange 5.5, 2000, and 2003

servers. Over 4,000 licenses have been deployed, making it one of the best-selling antispam solutions for Microsoft Exchange.

- Fast setup "configure it and forget it"
- Over 95% spam detection rate
- · Constantly updated spam engine
- Users can manage their own quarantine
- · Customizable treatment of spam
- 30-day product evaluation



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Antispam Application

Virtual Booth 3989 • Virtual Product 1924

Email Filtering Service Blocks Spam and Viruses —BEFORE They Reach Your Network



- No hardware or software to buy • End-users manage their own quarantined messages
- Priority antivirus updates from McAfee
- · Easy to add exception rules for designated sender/domain
- Low per user per month charge (as little as \$3/user)

Protect yourself or resell to your clients to lessen legal liability or improve employee productivity. Can help block directory harvest attacks in conjunction with existing firewalls. Easier to manage than server-based solutions. Virus Protection-Spam Protection-Attachment Protection Network and IT Resources-Outbound Filtering-Reporting

THE FULCRUM GROUP



715 Katy Road Suite 208A Keller, TX 76248 Phone: (817) 337-0300 Fax: (817) 337-0313 WEB SITE: www.fulcrumgroup.net

Antispam
Virtual Booth 4046 • Virtual Product 1988

Tumbleweed MailGate™ is a secure, hardened Linux-based appliance, designed to remove spam and viruses from the email systems of small, medium, and large enterprises. MailGate is the only antispam appliance on the market with true artificial intelligence, which is why InfoWorld magazine rated it #1 against all competitors.

What Makes MailGate The Smartest Antispam Choice?

- Install and configure in less than 30 minutes
- Proactive and reactive approaches capture 98% of spam with extremely low false positives
- McAfee or Kaspersky antivirus stops viruses at the network edge
- Lowest total cost of ownership for real savings
- Tumbleweed is the trusted leader in email security, with over 10 years of innovation and over 1100 customers.



700 Saginaw Drive Redwood City, CA 94063 Phone: (800) 696-1978 Fax: (650) 216-2001 WEB SITE: www.tumbleweed.com EMAIL: info@tumbleweed.com

Email Management Solution Virtual Booth 3918 • Virtual Product 1790



Sophos PureMessage for Windows/Exchange is a comprehensive, flexible email management solution.

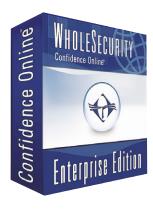
- Policies combine antispam, antivirus and policy enforcement to guard against attacks such as multi-faceted spam, virus, DHA and DoS.
- Checks all email traffic passing through your email server, providing an extra layer of protection against worms and viruses



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Zero-Hour Threat Detection

Virtual Booth 3742 • Virtual Product 1449



Worried about worms. Trojan horses and eavesdropping threats? WholeSecurity's solutions

deliver zero-hour protection against these types of malicious programs. With behavioral detection technology, Confidence Online™ automatically eliminates both known and unknown threats on PCs without requiring users to update signatures. Call to learn more about our on-demand and always-on deployment options!



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Fax: (512) 874-7401 WEB SITE: www.wholesecurity.com EMAIL: sales@wholesecurity.com

Microsoft SQL Audit/IPS

Virtual Booth 3901 • Virtual Product 1771

AppRadar for Microsoft SQL Server is a host-based, datbase intrusion protection system empowering enterprises to thwart database-level attacks and malicious behavior. AppRadar provides database-specific, active protection, monitoring, and auditing. As a complementary real-time database intrusion protection system, AppRadar now makes it possible to monitor and defend the data stored within your Microsoft SQL Server database.

- Detects real attacks and misuse on the database focused on detecting and preventing complex attacks from valid
- Provides administrators full awareness of what has been executed, when, by whom, and where in the database. Providing an audit trail and "real-time" alerting of all database activity without any impact on performance.

APPLICATION SECURITY, INC.

575 8th Avenue 12th Floor Phone: (212) 947-8787 WEB SITE: www.appsecinc.com

New York, NY 10018 Fax: (212) 947-8788 EMAIL: sales@appsecinc.com

Vulnerability Monitor

Virtual Booth 3724 • Virtual Product 1430

NeVO 2.0



- NeVO Vulnerability Monitor • Monitors network traffic to passively discover hosts, applications and vulnerabilities
- Produces vulnerability reports compatible with Nessus and the Lightning Console
- Detects successful intrusions with extremely low false-positive rates
- Available for Windows 2000, XP, Linux and FreeBSD



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Vulnerability Management Virtual Booth 3822 • Virtual Product 1618

Intrusec Exposé - Change Management Software

You can't secure what you don't know about. Today's networks are dynamic and in a constant state of flux. Which means your security posture is changing minute by minute. Intrusec Exposé provides visibility into those changes and shows you the impact of those changes before they cause a problem.

- Proactive, near real-time change detection When something changes, Exposé notifies you immediately, based on the rules you determine.
- Up-to-the-minute asset inventory of your network, showing all assets, ports, services, users, applications, etc. ranked by the business value to your organization.
- When a change is detected, Exposé works with your existing vulnerability scanners to tell you what vulnerabilities were created by the change.



75 Fifth Street NW, Ste. 207 Atlanta, GA 30308 Phone: (404) 526-6138 Fax: (404) 526-6132 WEB SITE: www.intrusec.com EMAIL: info@intrusec.com

Exposure Risk Mgmt.

Virtual Booth 3875 • Virtual Product 1719



Skybox™ View creates a virtual model of your environment and then, by leveraging your scanned information, runs attack simulations distilling 10,000's of vulnerabilities down to the <2% that are critical because they are truly "exposed." Skybox™ View reduces the window of exposure from months to hours and communicates risk in layman terms to executives.



2370 Watson Ct, Ste. 110 Palo Alto, CA 94303 Phone: (650) 565-8060 Fax: (650) 565-8068 WEB SITE: www.skyboxsecurity.com

Vulnerability Remediation

Virtual Booth 3891 • Virtual Product 1755



Backdoors, unsecured accounts, misconfigurations, software defects and unnecessary services. Now you can fix vulnerabilities with Hercules, an automated vulnerability remediation solution created by Citadel Security Software. Hercules provides flexible, end-to-end capabilities to fix all five classes of vulnerabilities. For the first time you can proactively reduce security risks in hours, not months.



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USB Software Security

Virtual Booth 3972 • Virtual Product 1889



Marx Software Security offers the security token Crypto-Box USB for secure data and software protection, as well as for 2-factor authentication. The hardware key encrypts data with the Rijndael Algorithm Advanced Encryption Standard (AES). The CRYPTO-BOX Supports all Windows, Mac and Linux Operating Systems.



2900 Chamblee Tucker Rd. Bldg. 9 Atlanta, GA 30341 Phone: (800) 627-9468 Fax: (770) 986-8891 WEB SITE: www.marx.com

Encryption Software



The "Secure Hash Signature Generator" creates signatures that are unique to the data stored on a disk drive. These signatures are used to verify intentional or accidental tampering with the drive image. The software has the ability to scan any secondary or slave drive attached to a PC or the RoadMASSter running the Windows operating system.



1627 Price Loop Rockwood, TN 37854 Phone: (865) 354-8960 Fax: (865) 354-8962 WEB SITE: www.ics-ig.com

Active Directory Mgmt.

Virtual Booth 3960 • Virtual Product 1875





Active Administrator is a comprehensive management and auditing solution enabling administrators to efficiently manage Active Directory Security and Group Policy in Windows 2000 and 2003 based networks.

- Simplified Group Policy Planning, Management & Backup
- Consistent permission assignment with Active Templates
- Repairable & Revocable role-based delegation of control



6000 Broken Sound Pkwy. NW Boca Raton, FL 33487 Phone: (561) 886-2400 Fax: (561) 886-2499 WEB SITE: www.scriptlogic.com/processor

Display-Only File Server Virtual Booth 3847 • Virtual Product 1639

protects enterprises from information theft by insiders · Bits of a confidential file never leave a DOFS server after

A revolutionary secure file server technology that

- the file is checked in. · Screen dump on a user machine is disallowed whenever
- the user is interacting with a confidential file. · Any crucial file access operations on a DOFS server like
- checking in/out, printing, emailing, etc. are fully logged, monitored and controlled. · Accesses to exported confidential files, essential in
- a mobile working environment, are protected by a tamper-resistant file access control mechanism.
- Clipboard operation such as cut & paste is unidirectional so that no information leakage from a DOFS server to a DOFS client is possible, but the other direction is allowed.



99 Mark Tree Road Centereach, NY 11720 Phone: (631) 467-4381 Fax: (631) 467-4597 WEB SITE: www.rether.com

Document Security Software Virtual Booth 3727 • Virtual Product 1428

Authentica's document security solutions provide total control over your enterprise's sensitive documents, spreadsheets and presentations, both during and after delivery to recipients.

Our document security solutions are ideal for any large enterprise that needs to securely share valuable intellectual property internally or with outside business partners.

Authentica's solutions let you:

- Securely distribute information anywhere
- Dynamically change access and usage permissions at any time, even after recipients have accessed files
- Continuously monitor information activity



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Secure Networking Software

Virtual Booth 4150 • Virtual Product 2125



Both ppnPC and ppnPRO provide the highest level of security for those data transfer applications for which the protection of information is critical. It is the preferred data transfer medium for those individuals and organizations that are required to comply with Federal or State laws and regulations that address the protection of an individual's privacy and/or the maintaining of the confidentiality of electronic data.



18700 Main Street, Suite 204A Huntington Beach, CA 92648 Phone: (714)-843-0099 Fax: (714)-465-3391 WEB SITE: www.apacsecurity.com EMAIL: info@acapsecurity.com

Web Services Security Virtual Booth 3944 • Virtual Product 1837

Secure Transaction Platform



The Entrust Secure Transaction Platform delivers security capabilities including standards-based authentication & authorization for Web services applications. Addressing identity and access management needs beyond the Web portal, Entrust helps you leverage your existing investment in Web applications to include Web services, delivering a central point of policy definition and enforcement.



1000 Innovation Drive Ottawa, ON K2K 3E7 Canada Phone: (888) 690-2424 Fax: (613) 270-2501 WEB SITE: www.entrust.com/stp/pro EMAIL: entrust@entrust.com

Enterprise Backup Solution

Virtual Booth 3920 • Virtual Product 1794

Innovative Data Protection-VERITAS NetBackup Enterprise Server delivers enterprise data protection for the largest UNIX, Windows, Linux and NetWare environments. To help reduce administration and hardware costs, organizations can now take advantage of enterprise-strength features such as synthetics, disk-based protection, automated disaster recovery, and desktop and laptop protection. VER-ITAS NetBackup provides the most advanced media management available, including tape labeling, tape media pool creation, device sharing, media/device reporting and bar code support. VERITAS NetBackup Enterprise Server also provides optional database and application-aware backup and recovery solutions for Oracle, SAP, Microsoft SQL Server, Microsoft Exchange, Microsoft SharePoint Portal Server, DB2, Lotus Notes/Domino, Sybase and Informix to deliver data availability for utility computing.



350 Ellis Street Mountain View, CA 94043 Phone: (800) 327-2232 Fax: (650) 527-2908 WEB SITE: www.veritas.com

Backup & Recovery Solution

Virtual Booth 3984 • Virtual Product 1911

Harbor NSM Product Suite

If you're like many companies today, your infrastructure has become increasingly complex while the growth in corporate data continues to explode.

Harbor NSM backup and recovery solution from Beta Systems not only backs up your ever-increasing amounts of vital data and provides the fastest recovery time on the market, it also works within your existing infrastructure, regardless of its complexity.

Harbor NSM provides high-performance network and SAN-based backup with fast, reliable data recovery.

- Scalable
- Manageable
- Flexible

6411 Ivy Lane, Suite 610 Toll Free: (800) 475-1168 WEB SITE: www.betasvstems.com

Greenbelt, MD 20770 Fax: (301) 486-4602 EMAIL: kelly.gunn@betasystems.com

Data Protection Software

Virtual Booth 3837 • Virtual Product 1632



BackAgain™ Data Protection Software. Tens of thousands of satisfied customers worldwide since 1994.

- Standout ease-of-use, highly competitive feature set, broad backup device support
- Live Microsoft Exchange backup (to mailbox level), live SQL Server backup
- Back up to any media at no additional cost
- "Bare-metal restore" for
- disaster recovery
- Unmatched value



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Backup & Recovery Mgmt. Virtual Booth 3991 • Virtual Product 1926

Not Just Another Backup Utility!

VFI/X is an intelligent, automated, high-level data protection and recovery management system. Based on the premier mainframe product that has protected Global 1000 corporations for over 15 years, VFI/X is now available for the distributed world. VFI/X leverages your current investment in all popular backup and recovery software and mirroring technologies. It unobtrusively monitors your systems in real-time, learns how your critical files are used as well as their interdependencies, and ensures that they're backed up when necessary, directly interfacing with the tools of your choice. All performed automatically, without human intervention, and these are just a few of its features. VFI/X is available for SUN Solaris 8 and above (Sparc 32, 64 & x86). Linux, IBM AIX, HP UX and Microsoft Windows versions will be released over the next several months.



940 W. Valley Rd., Ste. 1604 Wayne, PA 19087 Phone: (610) 971-9946 Fax: (610) 964-9072 WEB SITE: www.21stcenturysoftware.com EMAIL: sales@21stcenturysoftware.com

Backup Software

Virtual Booth 4062 • Virtual Product 2014



Dantz® Retrospect® Multi Server v6.5 delivers proven technology, complete protection, easy administration, and fast backups with 100% accurate restores for networked file servers, business critical application servers, desktops and notebooks. It provides the utmost in safety and security by protecting against loss due to viruses, newly installed software, user error, damaged hardware, hardware upgrades, hackers & lost or stolen computers.



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Unix/Linux Tape Management

Virtual Booth 3862 • Virtual Product 1679

Backup, Recovery & Media Management For Open Systems

LXI TMS/ix brings true tape management to Unix and Linux servers. Capable of performing standard day-to-day backups, TMS/ix gives corporate data centers more advanced tape management for those tape processes above and beyond backup and recovery. With TMS/ix you can:

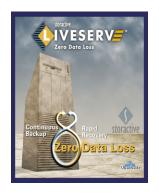
- Read and write standard label and non-label tapes
- Track and protect every tape used
- · Manage virtually unlimited number of tape devices, including virtual and real automated tape libraries
- Implement regulatory compliant offsite vault management program
- · Monitor all backup activity from a single console



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Continuous Data Protection

Virtual Booth 3587 • Virtual Product 1358



Storactive LiveServ™ for Exchange Server

LiveServ software delivers continuous data protection for Microsoft Exchange servers, ensuring rapid, zero-loss recovery of individual messages, mailboxes and entire data stores.

- Eliminate backup and recovery windows
- Recover data up to the point of failure
- Rapidly restore messages while Exchange is live
- **FREE TRIAL**



4551 Glencoe Avenue Suite 150 Marina del Rey, CA 90292 Phone: (888) 352-9140 Fax: (310) 604-0773 WEB SITE: www.storactive.com

Content Archiving Software

Virtual Booth 3929 • Virtual Product 1814



Enterprise Vault® offers a total archiving platform for Microsoft Exchange, SharePoint Portal Server, IM and file server environments. Enterprise Vault®

allows you to streamline and reduce the ongoing cost of information storage for the enterprise and simultaneously keep it instantly accessible for users and the organization.

Enterprise Vault not only optimizes front line systems but helps you support your mission to develop processes for good corporate governance.

Visit www.kvsinc.com/corpgov and receive the free report, Corporate Governance - the Impact on your IT Staff!



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Backup & Disaster Recovery

Virtual Booth 3587 • Virtual Product 1359



Storactive LiveBackup® for Enterprise PCs

LiveBackup software for desktop, remote & mobile PCs protects distributed data automatically as it is saved and ensures rapid file, system & disaster recovery.

- Automates PC backup in real time
- Recovers from disasters, errors & viruses
- Minimizes downtime
- Offers easy, self-serve data recovery
- **FREE TRIAL**



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Real-Time Data Replication

Virtual Booth 3080 • Virtual Product 513

Constant Replicator™ provides automatic real-time replication of mission-critical file data in real-world heterogeneous environments over ordinary IP networks. Once installed on your host, Constant Replicator™is always running, protecting your critical files by mirroring them as they change to one or more remote servers over your existing network.

As your business migrates to the next level where data availability is critical, consider the many enterprise environments where Constant Replicator™ can make the transition simple and hassle-free while simultaneously providing investment protection and a solid foundation for your future.



410 11th Avenue South Phone: (952) 933-2331 WEB SITE: www.constantdata.com

Fax: (952) 933-2551 EMAIL:sales@constantdata.com

Data Backup & Recovery

Virtual Booth 3974 • Virtual Product 1892

EVault Online Data Backup & Recovery Software and Services protect your business-critical data. Unexpected data loss can have serious consequences that no business or IT professional wants to face. Eliminate the risk and management burden of tape-based server backup and disaster recovery.

- · Centralize and automate your backup and recovery process
- Enjoy reliable and encrypted data transfer to an off-site storage vault, with 100% data confidentiality - guaranteed
- Reliable and immediate restoration of lost or deleted files • Lower data backup costs by leveraging existing
- infrastructure Automate for regulatory compliance, removing
- dependence on human management



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Peer to Peer Backup System

Virtual Booth 4024 • Virtual Product 1963

312's flagship product LeanOnMe provides platform independent peer-to-peer backup and remote access capabilities. Using innovative Peer-to-Peer technology, LeanOnMe allows you to backup your files to your friends, family, or colleague's computer. This is all done quickly, easily, and safely, using encryption standards similar to that used by banks and the military.

Try it free online at www.312inc.com

LeanOnMe features:

- Installation & setup wizard
- · Protects files or folders
- Easy scheduler for continuous, effortless backup
- Simultaneous backups to multiple off-site peers • Peers cannot see, modify or infect your data
- Securely encrypts and compresses the data
- No monthly web storage fees!



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Data Warehouse Platform

Virtual Booth 3926 • Virtual Product 1807

Sybase IQ 12.5 is a data warehouse platform designed specifically from the ground up for unsurpassed query performance and the lowest total cost of ownership for users' analytical applications. Based on recent TPC-H benchmarks, Sybase IQ is a category-leader in the business intelligence and enterprise data warehousing market, with record-breaking price-performance and storage efficiency, as well as the lowest total cost of ownership.

Sybase IQ is only business intelligence solution available on the market today that offers column-based data warehousing. Unlike traditional databases, Sybase IQ is architected for analytics - not transactions - and the columnbased structure provides significant advantages within a query environment, including reliable performance, easy maintenance, increased scalability and the need for fewer hardware resources.



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Storage Mgmt. Solution

Virtual Booth 4100 • Virtual Product 2068

ArC Overview

Network-based archive for fixed-content data

Archivas Cluster (ArC) is a network-based archive management solution that is designed for long-term storage of digital assets. The archive database is distributed and replicated across multiple Linux servers, or nodes. Each node stores data and acts as a portal to access data. Built from industry-standard hardware, ArC's unique architecture enables an installation to scale easily and inexpensively from a small cluster of several server nodes, to many nodes that store hundreds of terabytes of data.



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Web-Based Media Service

Virtual Booth 4085 • Virtual Product 2048

American Eagle's WEBSCAN Web-based media tracking system

Track Media

- For Mainframe and Open Systems
- To and from any location
- By retention date or cycle control
- Kept in containers or slotted at the Vault
- · Regardless of media type

Inventory

- Media in Tape Library
- Media at the Offsite Vault

Web-Based Advantages

- Access information from anywhere anytime
- No corrupt database issues
- Backups done at the server level



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December 10, 2004

SAN & NAS Management Virtual Booth 3697 • Virtual Product 1286



IPStor provides an open software infrastructure platform for storage networking, allowing for the consolidation of heteroge-

neous storage environments along with the seamless creation & provisioning of both SAN (block level) & NAS resources (for general-purpose file sharing) from the same storage pool.

- Any-to-any connectivity: Fibre Channel, IP, iSCSI, SCSI, CIFS, NFS, etc.
- · Centralized management of entire storage network and storage services from a single easy-to-use, go-anywhere
- Dynamic expansion of storage volumes
- · Lightning-fast zero-impact backup and immediate recovery
- End-to-end security



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Storage Resource Mgmt. Virtual Booth 3747 • Virtual Product 1483



CreekPath Systems is changing the way people view their storage operations and processes. There is no other vendor in the industry that integrates workflow, policy and automation into the storage supply chain so that users can employ their total infrastructure as a business enabler.



7420 E. Dry Creek Parkway Longmont, CO 80503 **Phone: (303) 845-1188** Fax: (303) 845-1002 WEB SITE: www.creekpathsystems.com

Storage Resource Mgmt. Virtual Booth 3986 • Virtual Product 1915

NTP Software Quota & File Sentinel enables users to enforce the appropriate usage policies, so you can preserve system performance and availability. With Quota & File Sentinel you can enforce disk space limits on directories, shares and servers in order to control user consumption, manage data stored on servers and gain real-time data on storage performance.

- Full support of Windows 2003
- Full HIPAA compliance
- Increased Security
- Installs without a reboot
- Network Appliance Functionality



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Storage Consolidation

Virtual Booth 3979 • Virtual Product 1901



SANsymphony™ software is an enterprise-class open storage networking platform that maximizes the value from IT assets. It pools disk space and automatically allocates just enough capacity, just in time. This doubles disk utilization, delivers a tenfold increase in managed capacity per administrator, eliminates storage-related downtime, and enables affordable business continuance.



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Storage Resource Mgmt.

Virtual Booth 3996 • Virtual Product 1942

nStor has built its NexStor platforms on a common management tool, providing you with the ability to easily manage your information assets. StorView management software allows you to leverage your storage resources to enhance the performance of your business applications, while simplifying and reducing the cost of managing storage environments.

- Easy to use, centralized management
- Flexibile and customizable
- Intuitive administration • Auto detection minimizes setup
- Alert notification via SNMP or email
- Continuous uptime
- Remote management
- · Advanced features: Virtualized LUN, Environment Capture, Statistical Reporting



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Storage Expansion

Virtual Booth 3979 • Virtual Product 1900

SANmelody™ software converts PC servers into costeffective expansion disk servers. Their added capacity appears as additional internal drives to disk-starved servers on LANs or SANs. This simple solution eliminates the need to commission extra application servers when the existing systems have no more room to add disks. Advanced options include point-in-time snapshots, auto failover across redundant disk servers, auto provisioning of disk space and long-distance asynchronous replication over IP WANs. These functions are host-independent and operate without occupying resources on the application servers.

To enhance application security and availability, SANmelody-equipped disk servers can maintain up-to-date copies (mirror images) of critical data currently housed on internal disk drives.



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Data Storage Management Virtual Booth 4041 • Virtual Product 1984

CaminoSoft's Managed Server HSM(tm) software provides a straightforward, cost-effective solution for managing the complexities of data storage. Combine the software with your Windows 200X and NetWare production servers and a host of off-the-shelf storage devices, including SAN, ATA/RAID, NAS, optical, and tape subsystems. The result is a finely tuned data storage resource supporting virtually infinite growth and availability.

- · Installs easily and quickly with no required production server downtime
- Aggregates multiple storage resources into a virtual central storage pool Provides seamless access to files---user directories
- remain unchanged · Dramatically reduces the amount of time needed for backup/recovery



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SCSI Diagnostics

Virtual Booth 3820 • Virtual Product 1614



The SCSItoolbox is the industry's most advanced and widely used testing and diagnostic tool. In use worldwide since 1992, the SCSItoolbox encompasses every tool that you need to test, troubleshoot, configure, and diagnose any single-ended; differential, SCSI 1, 2, 3, wide or narrow devices; Ultra II, Ultra3; FC; iSCSI; SATA; ATAPI; or SAS device.



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Littleton, CO 80162 Fax: (480) 802-1217 EMAIL:sales@scsitoolbox.com

I/O Acceleration Software

Virtual Booth 3729 • Virtual Product 1435

Precision I/O will open up the server-to-network bottleneck for the first time with a software solution using the standard IP/Ethernet infrastructure already present in virtually every data center. Precision I/O's technology is inserted between an application and a network interface to relieve operating systems of I/O chores, letting the server focus on more important tasks associated with application processing.

- 100% Ethernet-based so there are no new standards, no new protocols, no new networking fabric.
- Boost transaction throughput two to seven times.
- Results in one-third of the latency of existing Ethernet deployments.
- Eliminating the bottleneck with the short transactions. typically found in server-to-server, database, and cluster.

Precision I/O

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Radware Application Security Solutions deliver 3Gbps Intrusion Prevention and Denial of Service Protection securing all connected applications against viruses, worms, DoS and SYN attacks; Radware Security **Activation solutions optimize best-of-breed security tools** including firewalls, IDSes, VPNs, antivirus, URL filtering and anti-spamming for fault-tolerant, high-performance and scalable security architecture management.



FireProof activates firewalls, VPNs and IDSes for fault tolerant, high performing and scalable best-of-breed security tools, eliminating the security/performance tradeoff

DefensePro secures all networked applications against viruses, malicious intrusions and Denial of Service at 3Gbps





Content Inspection Director (CID) provides fault tolerant, high throughput and scalable antivirus scanning, URL filtering and antispamming for complete content security



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Contact Radware to enable end-to-end application availability, performance and security.

info@radware.com 888-234-5763

iSCSI Target Software Virtual Booth 3905 • Virtual Product 1777



WinTarget is a powerful iSCSI target software solution designed specifically for the Windows 2000/XP/2003 platform that enables IT departments to benefit from cost-effective

network storage solutions. Leveraging the iSCSI protocol, WinTarget enhances Windows sharing of disk systems over an Ethernet network. WinTarget seamlessly integrates into the operating system enabling customers to leverage their investment in Windows by providing networkwide secure storage provisioning and high availability. Storage capacity is no longer trapped behind a single server or unavailable if a single server fails. Typical applications of WinTarget include sharing locally attached free disk resources among servers, extending high-performance fault-tolerant disk devices across the network, consolidating storage, or creating cost-effective cluster environments.



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Application Virtualization Virtual Booth 4032 • Virtual Product 1972

Softricity® helps enterprises simplify and accelerate their entire software management and deployments with SoftGrid® - the industry's first application virtualization infrastructure solution - reliably and cost-effectively for past, present and future applications. SoftGrid transforms Windows applications from products that must be installed locally into virtual services that are centrally configured, managed, and deployed on-demand to Windows desktops, laptops and Terminal Services/Citrix MetaFrame Presentation servers preventing application conflicts, eliminating regression testing and increasing change management responsiveness. By streamlining deployment, upgrades, patches and terminations, SoftGrid saves companies tremendous time and money, increases quality of service and provides the flexibility needed for today's dynamic business environment.



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Enterprise Mgmt. Software

Virtual Booth 3793 • Virtual Product 1559



Enterprise Configuration Manager captures tens of thousands of configuration variables on every server and workstation in your organization. See

the results immediately in the ECM Portal or as output in one of the hundreds of prepackaged reports. Tame rogue system configurations, enforce standards, minimize downtime, and forge a strong, seamless network environment.

- · Central database
- Enterprise view
- · Auto discovery
- Central WMI data collection w/out recompiling the MOF
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- Run remote commands
- · Schedule collections by time interval on demand
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Tripwire For Servers Virtual Booth 4066 • Virtual Product 2023



Tripwire® for Servers monitors critical server system files across the enterprise, providing immediate notification of changes that occur, while Tripwire Manager provides convenient, centralized management of Tripwire for Servers installations. With Tripwire software, evaluate changes and minimize impact to prevent downtime, maintain security, and stop implementation of unauthorized changes.



326 SW Broadway Portland, OR 97205 Phone: (800) 874-7947 Fax: (503) 223-0182 WEB SITE: www.tripwire.com EMAIL: sales@tripwire.com

Tripwire for Network Devices Virtual Booth 4066 • Virtual Product 2024



Tripwire® for Network Devices is a multi-vendor network configuration management software product that centrally manages, monitors, and reports changes made to routers, switches and other network assets. Rely on Tripwire for Network Devices to increase network uptime, enable staff efficiencies, demonstrate compliance with internal IT policies or government regulations, and enhance security.



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Clustering Solutions Virtual Booth 3920 • Virtual Product 1792

VERITAS Cluster Server, the industry's leading open systems clustering solution, is ideal for reducing planned and unplanned downtime, facilitating server consolidation, and effectively managing a wide range of applications in heterogeneous environments. With support for up to 32 node clusters in SAN, VERITAS Cluster Server features the power and flexibility to protect everything from a single critical database instance, to the largest, globally dispersed, multi-application clusters. Increasing automation, providing features to test production disaster recovery plans without disruption, and offering intelligent workload management allow cluster administrators to maximize resources by moving beyond reactive recovery to proactive management of application availability.



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IT Lifecycle Management Virtual Booth 4149 • Virtual Product 2128



Altiris offers Web-enabled solutions that easily manage desktops, notebooks, handhelds and servers. Altiris provides fully integrated systems management solutions for client and mobile, server, and asset management that automate, simplify, and reduce the cost of IT lifecycle management. Download a free 30-day evaluation copy. www.altiris.com.



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Media Management System Virtual Booth 3998 • Virtual Product 1943





Vertices® Media Management System is the comprehensive, scalable disaster recovery tool that will help you meet even the most stringent business continuity guidelines. Vertices lets you easily store, track, move and protect all the media your company generates. And since Vertices integrates seamlessly with your backup system, the tracking / logging of your backup media will be done automatically.



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Patch Management Service Virtual Booth 3819 • Virtual Product 1754

- With Patch Automation[™], IT staffs will be receiving and applying patches that are directly received from Microsoft, with no intermediate handling. This minimizes the risk of inadvertent tampering with a patch.
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December 10, 2004

Security Update Manager

Virtual Booth 3793 • Virtual Product 1560



- Enterprise assessment in minutes
- Push and pull deployment
- Deployment control
- Security and role-based access
- Integration with Microsoft Security Web site



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Application Monitoring Virtual Booth 3990 • Virtual Product 1925



ipMonitor is a secure, real-time network monitoring solution that will proactively Monitor, Alert and Recover your critical applications, servers and infrastructure equipment. Feature rich and affordable - ipMonitor's proven agentless architecture and comprehensive feature set delivers unparalleled reliability, ease-of-use and low cost of ownership.

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Application Performance Virtual Booth 3920 • Virtual Product 1793

VERITAS i^{3™} is an integrated software solution that provides a methodology for rapidly improving application performance. Correlates the application flow across the multitiered IT infrastructure by continuously monitoring all technologies that contribute to response time.

Identify the problem with VERITAS Insight™-collects detailed performance metrics from underlying technologies contributing to response time to provide deep visibility into complex performance bottleneck issues.

Notify the user with VERITAS Inform™-delivers key performance information collected by Insight & Indepth in the form of historical reports and exception to service alerts.

Correct the problem with VERITAS Indepth™-measures the real end user response time of multi-tiered applications. Provides specific performance metrics for SAP, Oracle, PeopleSoft, Siebel, and J2EE and MS-SQL applications.



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End-To-End Performance

Virtual Booth 4043 • Virtual Product 1985



NetQoS' SuperAgent is the most complete application performance solution available today, from reports to measure SLA compliance for the CIO to detailed problem solving analysis for network engineers. SuperAgent monitors and analyzes end-to-end performance based on real user traffic, measuring all transactions from all users. No synthetic transactions, no agents on desktops or servers.



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Application Monitoring

Virtual Booth 4077 • Virtual Product 2038



Audit Suite provides a powerful and innovative framework for monitoring distributed applications by collecting performance and security metrics from Application-Universe™ entities such as

custom instrumented applications, databases, web servers, operating systems and networks.

- Non-intrusive, non-invasive, 24x7 monitoring
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Performance Monitoring

Virtual Booth 3925 • Virtual Product 1806



infrastructure availability from a single view Drill down to individual

• Monitor your entire server

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- anywhere Monitor and track IT
- service health
- Quick root cause analysis Virtual resource trend
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Workstation Management

Virtual Booth 4121 • Virtual Product 2094



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December 10, 2004

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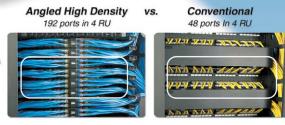
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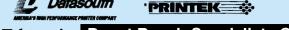
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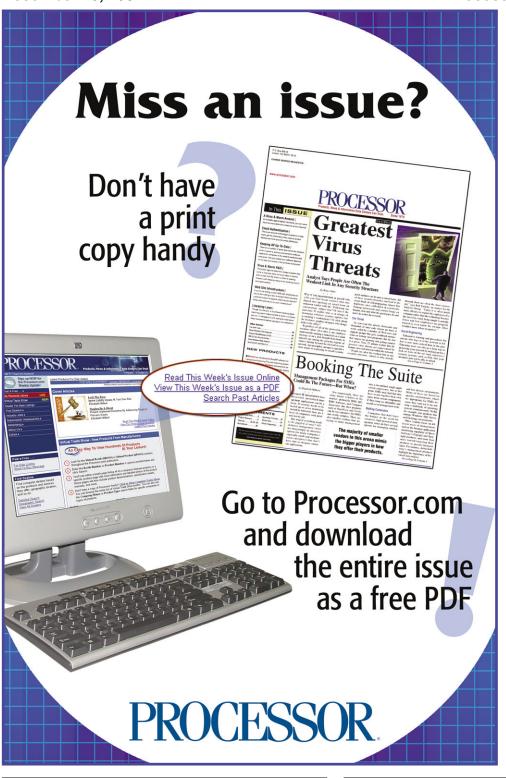
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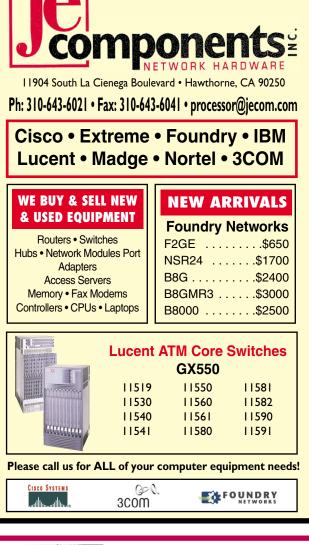


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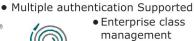
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